

THE JOURNAL OF COMPARATIVE MEDICINE AND VETERINARY ARCHIVES

EDITED AND PUBLISHED BY

RUSH SHIPPEN HUIDEKOPER, Veterinarian (Alfort),

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CONTENTS.

ORIGINAL ARTICLES:

Tuberculosis. By AUSTIN PETERS, V.S.	337
Horseshoeing. By J. H. FERSTER, V.S.	348

SELECTIONS:

Subcutaneous Injections of Turpentine in Pneumonia—Affections of the Heart and Acute Founder—Tuberculosis—Glanders—The "Horse Industry" in Kansas—Influenza Organism—Antitoxin	355
--	-----

EDUCATIONAL:

Honors to Veterinary Educators—The Minneapolis Board of Trade Milk and Meat Inspection Meeting	369
--	-----

EDITORIALS:

Our New Associate Editor and Owner—Good Roads—New York Veterinary Medical Association—So-called "American Sheep Disease"—Growth of Veterinary Literature—Pennsylvania Points the Way—Association of Faculties of Veterinary Colleges of North America—United States Veterinary Medical Association	371
--	-----

NEW PUBLICATIONS:	376
-------------------	-----

SOCIETY PROCEEDINGS:

Keystone Veterinary Medical Association—Veterinary Medical Association of New York County—Reunion of Graduates of the American Veterinary College—New Hampshire Veterinary Medical Association—Gossip	379
---	-----

LEGISLATION:

France—Pennsylvania—Massachusetts—New York—Maryland—Aspect of New Legislation	382
---	-----

CLINICAL GLEANINGS—CORRESPONDENCE—NOTES OF CASES—NECROLOGY—AUTOPSIES—FACTS AND ACTS WORTH KNOWING—NEW INVENTIONS—U. S. V. M. A.—COLLEGE NEWS—PERSONAL	386-402
---	---------

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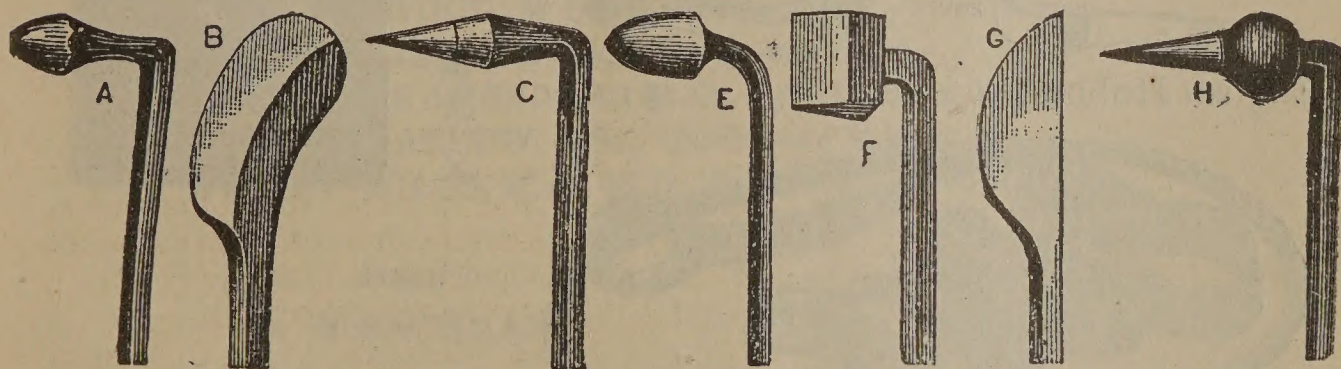
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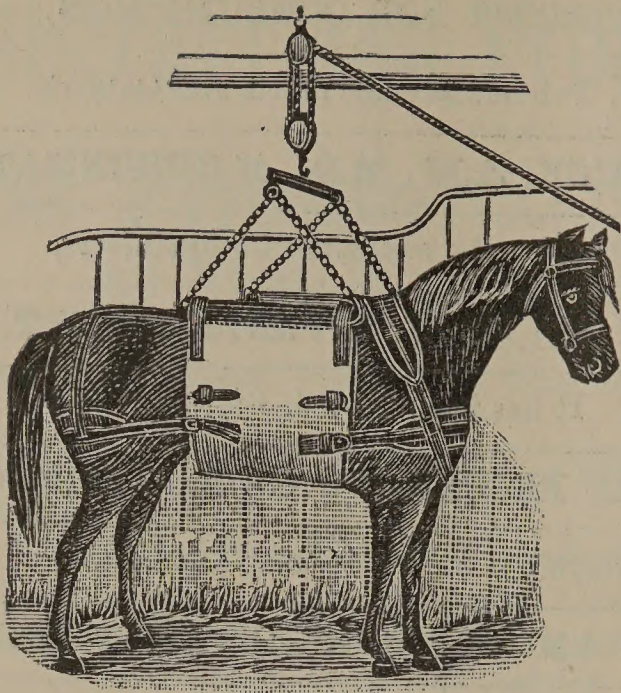
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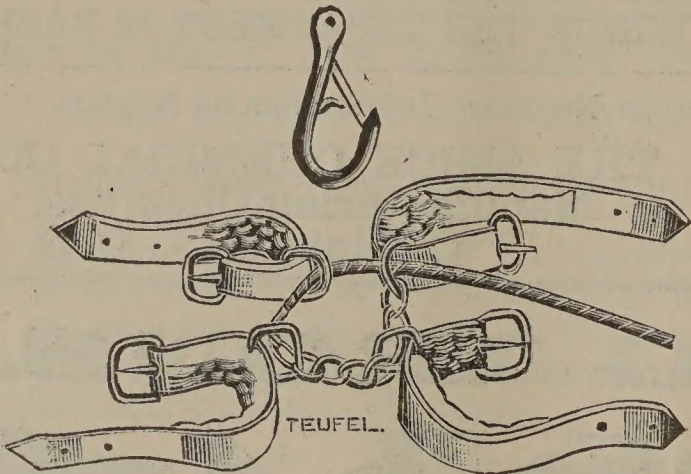
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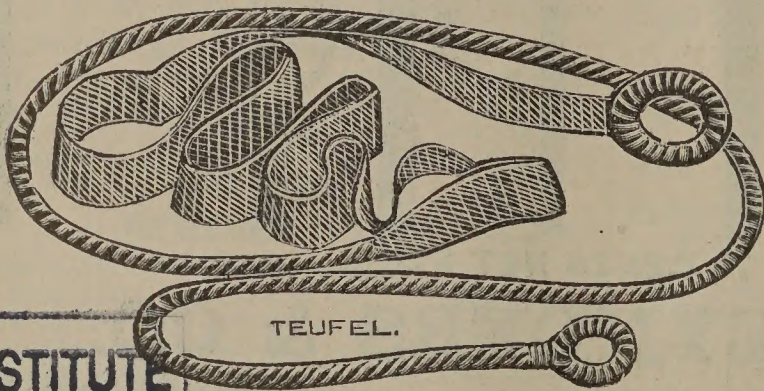
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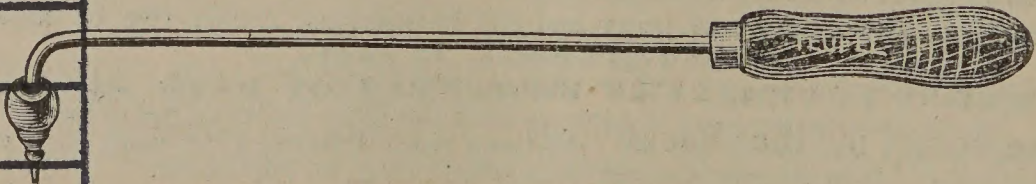
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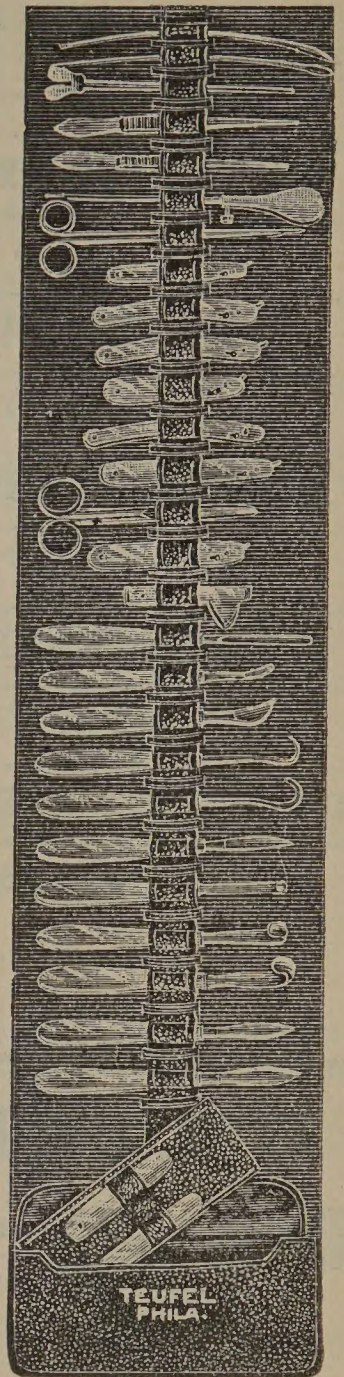


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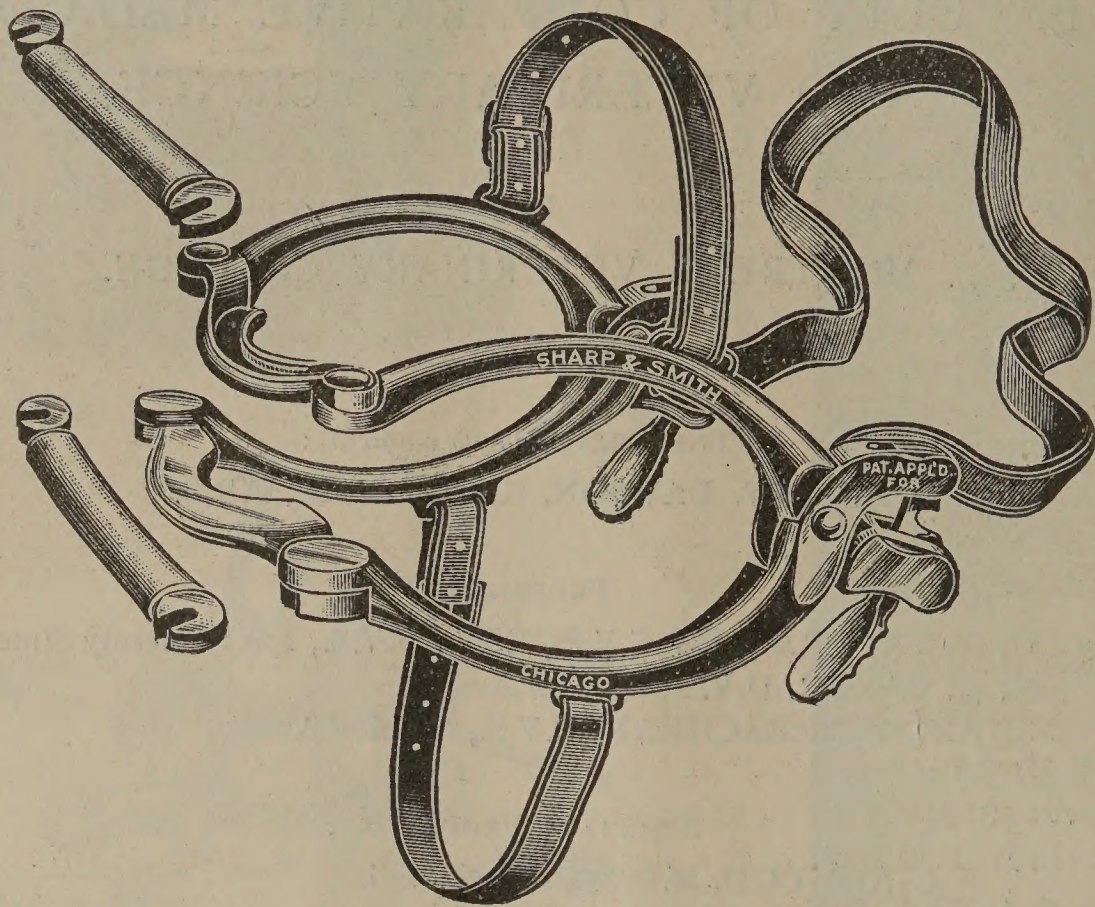
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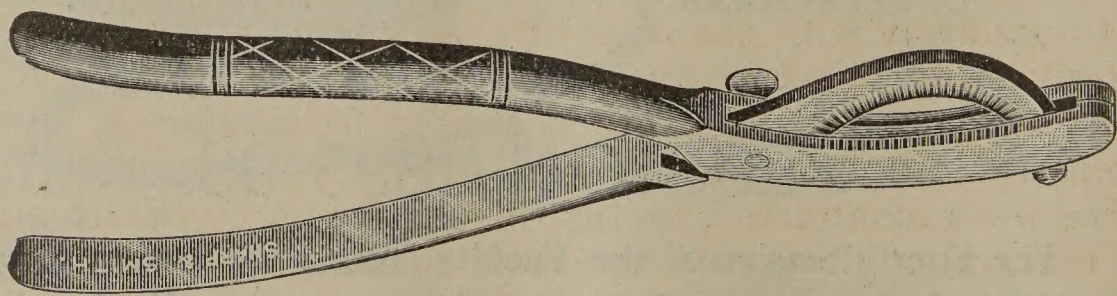
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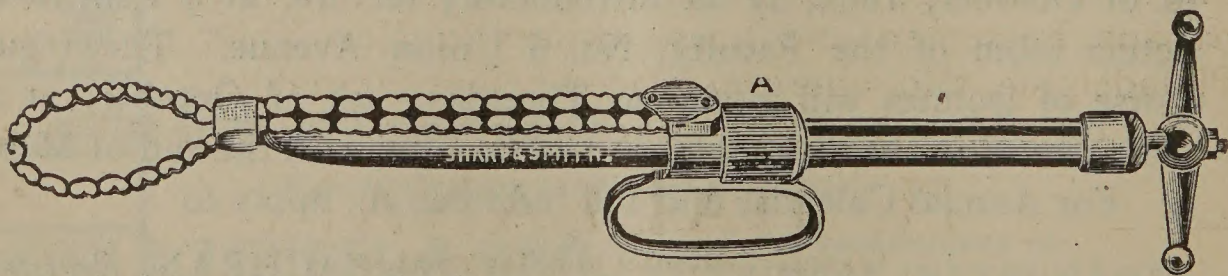


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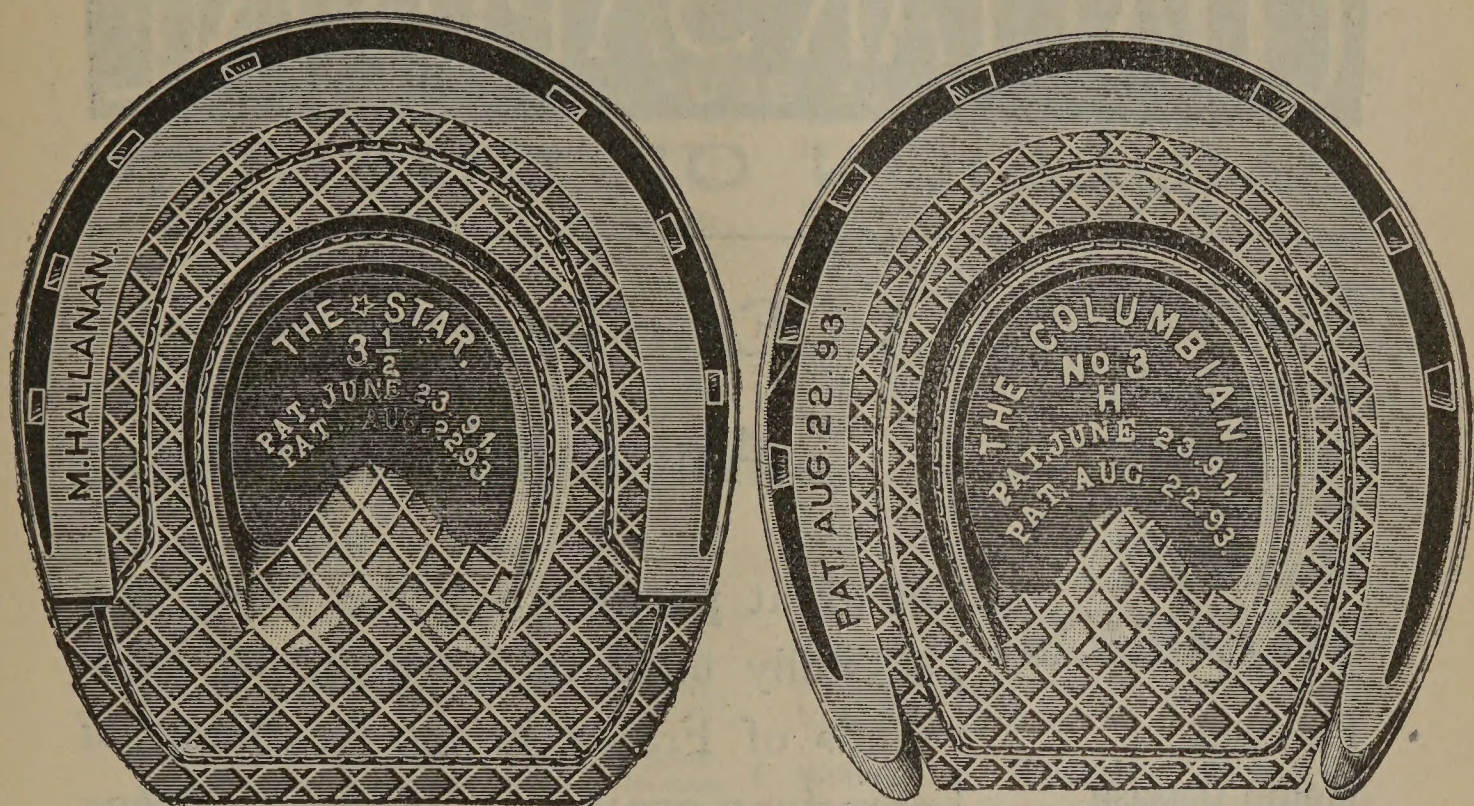


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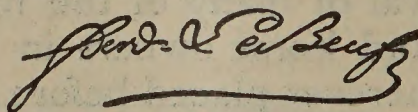
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JUNE, 1895.

No. 6.

TUBERCULOSIS.¹

BY AUSTIN PETERS, V.S.

It is several years since it has been my pleasure to address a *Ploughman* audience upon the subject of tuberculosis, but since then much that I told you at that time has turned out to be true, and new knowledge has been acquired, until this subject has attained so much importance as to be receiving a vast amount of public attention in our eastern dairy States, not only in New England, but in New York State and Pennsylvania as well, and, although present views and present methods of dealing with this malady may become modified in many ways as knowledge concerning it increases, yet it has secured a recognition that will never be lost sight of, and State governments having once taken steps for its suppression can never again ignore its existence and magnitude.

I shall probably this morning touch upon points which we have considered upon a former occasion, but a repetition of some features of our topic will not be time wasted, and in addition there are new facts to be studied which have developed the last two or three years.

It is sufficient to say that tubercle means a nodule, and that tuberculosis is a disease characterized by the formation of nodular growths in different tissues or organs of the animal economy, these nodules being small and of one consistency at first, later

¹ Abstract of address before "The Ploughman," Farmers' Meeting, Boston, April 6, 1895.

their centres break down, becoming first cheesy, and when older infiltrated with deposits of lime-salts, cutting then with a gritty feeling, as though they contained particles of sand. Under the microscope a tubercle is found to consist of cells, chiefly round cells, resembling white blood-corpuscles, among them a few large cells, known as "giant cells;" the external cells may be flattened by pressure, representing epithelioid cells. Scattered among the cells and sometimes within them, especially within the "giant cells," are found bacilli about 1-10,000 of an inch long, when properly stained having a characteristic staining reaction; looking, then, under a suitable microscope, like scratches made with a very fine crow-quill pen dipped in red ink, drawn upon a blue field. The adjective *tuberculous* is applied to animals suffering with tuberculosis, and *tubercular* to lesions resembling tuberculosis, but in reality nodular growths of a different origin. These two adjectives are, however, sadly mixed up by persons who ought to know the difference in their meaning. Until within the past few years different forms of tuberculosis were described by different names, and some of them were supposed to be even distinct diseases; thus consumption of the lungs is known as *phthisis*; consumption of the bowels as *tabes mesenterica*; tuberculosis of the lymphatic glands as *scrofula*; tuberculosis of the skin as *lupus*; then we have tuberculous *arthritis*, or tuberculosis of the joints; and tuberculous *mammatitis*, or tuberculous inflammation of the udder. *Lupus* and *scrofula*, for example, were formerly supposed to be distinct diseases, but are now recognized as tuberculous because it is found that they are caused by the bacillus of tuberculosis exactly as *phthisis* and *tabes* are.

Etiology. The etiology of a disease is the study of its cause; the cause of tuberculosis is the tubercle bacillus, as discovered by Koch; it has a certain appearance, a characteristic color-reaction, and can be artificially cultivated. It is identically the same germ in man and in the lower animals, as can be proved by the microscope, artificial cultivation, and inoculation experiments. The causes of a disease may be divided into the exciting cause and predisposing causes; these hold good in regard to any infectious malady. The exciting cause of tuberculosis is the specific germ which gives rise to it, the *bacillus tuberculosis*.

The following are the predisposing causes of bovine tuberculosis, being a modification of Walley's list:

First, species of animal; second, hereditary predisposition

and congenital tuberculosis; third, breeding in and in; fourth, breed; fifth, early-, late-, and over-breeding; sixth, physical conformation; seventh, climate and locality; eighth, debility produced by lactation, sickness, and bad food; ninth, bad hygienic conditions.

Although statistics are meagre regarding the extent to which tuberculosis prevails among our herds, it is certain that it is far too prevalent. Among the cattle running upon the ranges of the great West it is practically unknown, but among the cows in the dairy sections of the East it is very common. During the winter of 1892-'93 I had the pleasure of acting as Chief Inspector of Cattle for the New York State Board of Health. Creatures were examined and condemned by physical examination only; the tuberculin test seemed to be still in an experimental stage, and it was thought best not to apply it just then. Two dairy sections were taken, one in Westchester county, the other in Orange county, for a general examination of the cows, about 10,000 being examined in each locality, with the result that nearly one per cent. were found to be tuberculous in Westchester county, and about one-third of one per cent. in Orange county. Taking for granted that the tuberculin test detects three or four cases to every one that can be ascertained by a physical examination, we find that about one per cent. of the cows in Orange county and three to four per cent in Westchester county must have been tuberculous. Orange county reminds one of Worcester county in this State, and the cows in Westchester county are under similar conditions to the cows in the suburbs of our eastern Massachusetts cities. Applying, then, these figures to our own State, it is a conservative estimate to put the per cent. of disease in Worcester county at one, and in the towns surrounding Boston at three or four per cent. If the Cattle Commissioners carry out the tuberculin test of the State which they have undertaken, these figures will be found too low rather than too high. Figures of three or four per cent. for our more thickly populated cattle districts coincide closely with the abattoir statistics of cattle slaughtered in the more populous European centres.

Tuberculosis is ordinarily acquired in one of three ways: 1, by inhalation; 2, by ingestion; 3, by inoculation.

Tuberculosis acquired by inhalation is the form seen in the great majority of cases, both in man and cattle, the tubercle bacilli gaining entrance to the lungs in the inspired air. Under

these circumstances the lungs are probably affected primarily, and the disease spreads from there to other organs. Here the first symptom is the cough, and a man or other animal suffering from phthisis is constantly coughing up and expectorating (at least the man expectorates, animals simply cough out) morbid products from the lungs; this sputum contains numbers of tubercle bacilli, and when it dries and becomes part of the dust floating in the atmosphere the bacilli also float with the dust and may gain access to the lungs of healthy animals. Now, if the person or animal is just recovering from a severe cold and has a little ulcerated spot in the lung, the bacilli may gain a foothold there and grow and produce the disease, spreading from the original point to other parts of the lungs and to other organs. Or, if large numbers are present in the air of a room, a person constantly inhaling them may become infected, even though naturally quite healthy, being finally overcome by numbers. The bacilli of tubercle retain their vitality for a long time: Koch has found that after several months in a dry room they still were capable of producing the disease. Dr. A. K. Stone,¹ of Boston, Mass., has demonstrated that dried tubercle bacilli retain some of their virulence for at least three years.

Nearly every one has doubtless inhaled these bacilli, but when present in small numbers, and with the pulmonary mucous membrane healthy, the ciliated epithelium of the air-passages returns them to the throat, and they are expectorated. Then the colony is so slow in growing at first that it may have a difficult time in fixing itself permanently.

Phthisical patients in expectorating are constantly giving out germs which may infect other people, and possibly cattle; and *vice versa*, there is a possibility that a person of a cachetic diathesis working in a stable occupied by tuberculous cows may acquire phthisis from them.

Infection in this manner is the way in which tuberculosis is ordinarily acquired among the human family, and, from a public-health point of view, waging war upon tuberculous cows without taking measures for the isolation of tuberculous persons, the disinfection of premises where a person has just died of tuberculosis, or where a consumptive family has just moved out of a tenement, is simply the same thing as trying to stop a small leak at the spigot while allowing an enormous leak at the bung to go on unheeded.

¹ American Journal of the Medical Sciences, March, 1891.

Infection by ingestion means acquiring the disease through the digestive tract by swallowing the virus, and this method of infection is of special interest in a consideration of the malady from a veterinary sanitary standpoint, as it is from the use of the flesh and milk of tuberculous animals that the chief danger lies of infection by this method. Tuberculosis by ingestion may also result from secondary infection, a tuberculous patient swallowing his own sputum. Tuberculosis by ingestion may also be caused in pet dogs with morbid appetites, or in fowls, by swallowing the sputum of a consumptive person.

The work conducted under the auspices of the old Massachusetts Society for Promoting Agriculture, by Dr. Ernst and myself, showed that the milk from twenty-eight per cent. of the cows investigated contained the bacilli of tuberculosis, and that the germs were virile as shown by the results of the feeding and inoculation experiments; also that it was not necessary for a cow to have a diseased udder in order to be a source of danger. These results are borne out by the researches of various scientists, such as Bang, Bollinger, Pearson, and others.

A number of interesting cases have come to my personal knowledge of the infection and death of infants as a result of being fed upon the milk of a tuberculous cow, therefore the danger exists and should be guarded against.

On the other hand, it must be borne in mind that the cows experimented upon at Mattapan were all picked out by a physical examination as diseased (this was before the discovery of tuberculin), that tuberculosis in the cow is apt to assume a chronic form, and that many cows picked out by the tuberculin test appear on a physical examination healthy, and upon post-mortem have only very slightly diseased mediastinal glands (lymphatic glands between the lungs). I believe that animals as slightly diseased as that are of no immediate danger to other cattle or to the public health.

Although there may be danger from the meat of a badly diseased animal, there is probably very little from one slightly diseased, especially as meat is usually eaten cooked, and 170° Fahr. is sufficient to kill the tubercle bacillus. The great danger from a sanitary standpoint is from the uncooked milk of a badly diseased cow or one having a tuberculous udder. There is now a theory that the cooked meat or milk from a tuberculous creature contains tuberculin, and that therefore these products are dangerous to use, especially for consumptive persons

in whom a dangerous reaction may be produced by the tuberculin present. This seems to me to be a far-fetched unproved hypothesis.

There is no reason that I can see why the meat of an animal but slightly tuberculous should not be used for beef, or why a very slightly diseased cow or ox may not be fattened for beef, under a proper system of abattoir inspection; and a law requiring the compulsory rendering or destruction of all such carcasses is unwise, injudicious, and a part of a very bad and wasteful system of political economy.

Besides the sanitary aspect of tuberculosis, there is also the farmer's point of view that it is a communicable disease from one cow to another, and the man owning a healthy herd wishes protection from buying from a neighbor a diseased cow which might contaminate his premises.

Infection may occur also from inoculation when the virus enters the body through the skin, and may be either accidental or intentional. It is intentional when tried experimentally upon animals, and accidental if the virus enters the system through a scratch or cut in the skin. Accidental inoculation might occur to a person who cut or scratched his hand while making an autopsy upon a tuberculous animal or while performing an operation upon a tuberculous subject. When the disease is induced by inoculation it begins with a nodule at the point of entrance, but if it is the result of ingestion the bacilli may enter the circulation and first attack some organ that has a lesser resisting power than other organs.

Diagnosis. The diagnosis of bovine tuberculosis is just now kicking up a good deal of a rumpus on account of the method used by our Cattle Commission; that is, by means of the tuberculin test; hence the tuberculin test is at the present time creating a great deal of interest among farmers and milkmen, and all sorts of questions are asked concerning its efficacy. Is it reliable? Does it do any injury to the animal? and similar queries arise by the score. Therefore, in closing this talk, the most profitable use to make of the remainder of the time at our disposal is, perhaps, to try and clear up some of these points. Until within a very few years diagnoses of tuberculosis in bovines were made by means of a physical examination, although in a few instances the microscope could be used to assist; but the physical signs are uncertain, and not infrequently other diseases may be confounded with the malady we are consider-

ing; now, however, we have a very valuable aid in what we know as the tuberculin test; I say aid, because I do not consider tuberculin infallible as a diagnostic agent, although the per cent. of errors made is very small when it is used under suitable conditions by a competent person.

Tuberculin is a chemical product of the tubercle bacillus. It is prepared by taking cultures of the germ which have grown long enough to produce their ptomaines, extracting these products by means of glycerin, filter the fluid and sterilize it; it contains no living germs and cannot by any possibility produce tuberculosis in a healthy animal.

It was first prepared by Koch, and was first introduced to the scientific world in 1890 as a cure for consumption in humans; it was not satisfactory, however, as a cure, and in many cases hastened death; it soon fell into disuse for the purpose for which it was originally intended; but it was found that consumptive patients after treatment had a characteristic febrile reaction; it was deduced from this that it would have a similar effect on cattle; and the use to which it is now put is that of a diagnostic agent for bovine tuberculosis, although I believe it has in some instances a curative effect upon this malady, and may possibly come into use again for the treatment of consumption.

As a diagnostic agent in cattle practice it is used in the following way: In the evening the animal's temperature is taken, then (for an averaged-sized cow) two and one-half cubic centimetres of a 10 per cent. solution of tuberculin, in sterilized water with 0.5 per cent. of carbolic acid in it, are injected under the skin over the anterior part of the shoulder by means of a good, strong hypodermic syringe. The temperature is again taken early the next morning and at intervals of two or three hours during the next day. It should have no effect on a healthy cow, but on a tuberculous one it ought to produce a marked febrile reaction between eight to twenty hours after the injection. To be very scientific, a number of temperatures can be taken during the day preceding the test to establish a mean normal temperature. If the animal has long hair it should be clipped off at the point of inoculation; and if the skin be dirty there it should be wiped clean. The animals should not receive any water during the test, as cold water lowers a rising temperature and disarranges matters; if the cows are given warm water daily it does no harm to water during the test, but they must not leave their stalls. I allow a little hay to keep

them quiet, but some veterinarians allow no food until the test is over.

For illustration the following tables from my note-book will show the temperature of a healthy cow and one that reacts:

Healthy cow:

9 P.M., Temperature, 101° Fahr.

Tested with $2\frac{3}{4}$ c. c. of a 10 per cent. tuberculin solution:

	Temperature.
6.00 A.M.	101.6°
8.30 "	101.8
11.00 "	101.6
2.30 P.M.	102.2
4.00 "	101.8

Tuberculous cow:

Tested with $2\frac{1}{4}$ c. c. of a 10 per cent tuberculin solution:

	Temperature.
6.00 A.M.	101.8°
8.30 "	104.4
11.00 "	106.8
2.30 P.M.	104.3

On post-mortem examination the one that reacted was found to have tuberculosis of both lungs and of the bronchial glands.

All kinds of tales are now going the rounds about tuberculin; it is said to be a dangerous poison, to cause cows in the full flow of milk to diminish or dry off, to cause cows to abort, to cause them to retain the foetal membranes after calving, and to cause the death of young calves taking the milk from cows being tested.

Of the hundreds of cattle I have tested with tuberculin I have never known this agent to act as a poison; I have known cows that were tested to diminish their milk, to abort, to retain the afterbirth, and young calves to die when the mothers were tested. On the other hand, I have tested cows without there being any diminution in the flow of milk, without their aborting or retaining the afterbirth, and the newly-dropped calves have been as lively as crickets and continued to thrive. Furthermore, we frequently see these direful mishaps and disasters occur among herds that have not been tested with tuberculin; so it seems as though if a herd is tested with tuberculin this agent was blamed for all the troubles that may take place among the stock for at least a year to come, while if the same accidents occurred in a herd that had not been tested no special notice would be taken of them, or other reasons would be assigned.

As to the infallibility of the tuberculin test: Cattle that are very badly diseased sometimes do not react, but generally these cases are plain upon physical examination; then cows advanced in pregnancy may have increased temperatures at times; cows in heat may have a rise in temperature, as may also animals having some sudden febrile disturbance; therefore all these conditions must be borne in mind by the inspector. In other words, the examination of cattle has not yet reached a point where an inexperienced young man can be sent out with a note-book, a supply of tuberculin, a hypodermic syringe and a thermometer to test herds, and then submit his note-book to a cattle commissioner sitting in an arm-chair in his office to say what shall be condemned to death and what shall pass as healthy. The trained expert on cattle and their diseases is still just as necessary and just as valuable a man as he has ever been.

The tuberculin test is of greatest value as an *aid* to diagnosis when used upon the cattle in the quiet surroundings of their homes, as free from disturbing influences as possible. Here the per cent. of error is very slight; in fact, here it is most nearly infallible, nearer infallible than anything we have ever had. The possibility of error is most clearly shown in the following extract from the report of the veterinarian of the Boston Board of Health, just issued this week. These animals were under the excitement of transportation and absence of familiar surroundings.

The first table shows the number of animals condemned as tuberculous since November 20th last, by the Cattle Commission, at Watertown and Brighton, the per cent. of error being 21.1 per cent.

Animals.	No. killed.	No. tuberculous.	No. not tuber- culous.	Percentage not tuber- culous.
Cows	96	76	20	
Bulls	5	4	1	
Steers	3	2	1	
Total. . . .	104	82	22	21.1

The following table shows the number of animals killed, which failed to react to the tuberculin test, and had been pronounced free from tuberculosis, the Commonwealth brand having been placed upon the right hip:

Animals	Number killed.	Number tuberculous.	Percentage, tuberculous.
Cows	62	4	
Steers	1		
Total	63	4	6.34

Comment upon these two tables is unnecessary, each speaks for itself, especially the latter one.

Is it a medicine? Another question to be investigated in regard to the action of tuberculosis is, as to whether it has a curative effect; for example, if a herd be tested where tuberculosis exists and a number of cows react; take, for example, a herd of twenty-five native or grade cows, and assume that fifteen react; take those that seem to be badly diseased and kill them, allow five for this; leave those that seem to be slightly diseased (ten) with the ten healthy ones and place them under the best hygienic conditions and disinfect the premises. If in seven or eight months the herd be retested it will be found that five of the ten that reacted before will not react, and that possibly one of the ten healthy ones may react to tuberculin. Or a herd of twenty cows, ten of which were tuberculous eight months ago, now contains but six diseased creatures, the remaining fourteen being healthy, if tuberculin be taken as correct.

Under the law such a herd as I describe would have had fifteen cattle out of twenty-five slaughtered, for which the owner would have received half value, and the carcasses would be thrown away, or under the law as it is hoped it will be, for the farmer's sake, he would receive full value for cows to be thrown away by the State, while it is yet an open question whether ten of them are of no danger, or at least safe to use for beef.

Is it fair, then, to expect the taxpayers to pay full value for the carcasses of what might be termed practically healthy cows, or cows that are safe to use as beef, until this question as to the danger from cows but very slightly diseased, and the curative action of tuberculin upon them, be more fully investigated?

I believe that for the breeder of pure-bred stock the tuberculin test is of the greatest value; it will enable him at once to eradicate all tuberculous animals and breed from only healthy stock; to the breeders of the Channel Island cattle particularly it will prove of inestimable value in leading to the destruction of a lot of weak-constituted, valueless animals, and the building up of a stronger, hardier race. For the milkman, however, keeping native or grade cows and constantly buying and selling, I believe that the test alone is too delicate to be of practical value. If I were a milkman and the State wished to test my cows and pay me full value for the cows killed, I should be glad to have it done and to sell stock in this way; but I would wait until the Cattle Commissioners arrived in their

official capacity to do the work, and not employ any private practitioners to come and test my herd before the commission was ready to do the work officially. But as a good citizen and a taxpayer I should object to anything that seems wasteful and extravagant until I was sure that it was the wisest course to pursue, especially as we are already an over-taxed people and have enough legitimate uses to put the State's money to without throwing it away. Tuberculosis in cattle is not a disease peculiar to them alone, but it is common to man and many other animals as well. It cannot be "stamped out" like contagious pleuro-pneumonia, but it can be kept down to a minimum by paying more attention to hygiene, cleanliness, sunlight and ventilation, and a gradual weeding-out process in herds where the disease exists. I still believe what I said in a report to the United States Veterinary Medical Association in October, 1893, when I was Chief Inspector of Cattle for the New York State Board of Health: "In suspicious cases when doubt is felt as to whether an animal is tuberculous or not, tuberculin is well worthy a trial; and in herds where a number of cases of tuberculosis are found I believe it is advisable to test the entire herd with it. I do not, however, believe it necessary or practicable to go to every farm in the country and test with tuberculin every cow to be found; but if it be inspected in the ordinary way and found to be healthy, I consider that sufficient.

PROFESSOR R. S. HUIDEKOPER, by virtue of his connection with the New York College of Veterinary Surgeons, changes his office address to 154 East Fifty-seventh street.

THE report of the Board of Cattle Commissioners has just been received. It gives a complete account of the work done in the line of stamping out tuberculosis; a record of all the tuberculin tests with the results obtained; an epitome of the legislation of other States in regard to tuberculosis and their plans of recompense where the animals are destroyed, which makes it a valuable contribution to the busy practitioner as a book of reference. Its strongest point and greatest value lies in the answers of the commission to all leading questions that have arisen under the stamping-out act, and sheds a world of light on the subject to guide other States in dealing with this all-important and intricate subject.

HORSESHOEING.¹

BY J. H. FERSTER, V.S.

IN consenting to read a paper before this society and its invited guests this evening, I did so, not with the idea of telling you anything new, but rather with the thought that something might be said which would lead to a discussion that would do us all some good. This is the only excuse which I have to make in asking your indulgence, when so many able gentlemen are here to speak to you.

At our last meeting this same subject of horseshoeing was discussed, and some important points were brought forward. Among the most important of these, in my mind, was the point of increasing or decreasing the obliquity of the pastern by elevating the toe. Professor Williams says we increase it, and it has been so taught in our veterinary colleges ever since he made the statement. I believe it to be the most inexcusable error that was ever launched upon any profession in the guise of a theoretical fact, and I am glad that some gentlemen of our day and our city have devoted enough time to the consideration of this point to be able to throw the calcium light of reason upon it, and to take the initiatory step in leading the veterinary profession out of the darkness of this error into a glorious sunlight of truth.

When I was attending college this theory of Professor Williams gave me much trouble. I never could harmonize it with what I thought I found practically to be a fact; and yet, after being repeatedly assured by those in whose opinions I had great confidence that the theory was correct, I gradually came to the conclusion that it must be like some of the ways of Providence—beyond the comprehension of ordinary intellects. In fact, I was repeatedly assured by my classmates, in our discussion of the subject, that it was my intellectual blindness that prevented me from seeing it as Professor Williams saw it. I am glad now to find some of the foremost thinkers of our day sharing in my intellectual blindness.

The obliquity of the pastern is largely regulated by the perforans tendon. If we increase the distance between the points

¹ A paper read before the New York County Veterinary Medical Association.

of attachment of the perforans tendon, without lengthening it, we must increase the tension of that tendon. Now, if that tendon runs in a perpendicular line, we simply increase the tension without altering the direction; but if there be an obliquity of that tendon the tendency of the increased tension is to straighten it, and if the amount of force brought upon the points of attachment is greater than the resisting force at the point of obliquity the lesser force must yield to the greater, and we have a decreased obliquity. This is what takes place when we elevate the toe.

The importance of understanding whether elevating the toe increases the obliquity of the pasterns or not is demonstrated daily in our practice. We have a horse which stands knuckled, that is, shows an undue perpendicularity of the pastern. To remedy this we must increase its obliquity. How shall we do it? According to the old teachings we should elevate the toe. In practice we do nothing of the kind; but, on the contrary, we elevate the heel, which is, of course, equal to lowering the toe, and we get a tendency to an increased obliquity. Now, is it possible for a man to understand balancing the foot if he does not first understand this point, and understand it not as it has been taught in the past, but understand it as it really is, just the opposite? Here is where reform should begin. If our text-books are wrong, as they surely are, they should be righted, or other text-books substituted. We cannot gather grapes from thorns, or figs from thistles; neither can we teach the coming veterinarians or horseshoers how properly to balance the foot if we begin by giving them an erroneous idea upon this important point. We wish to learn facts that will support us in everyday practice, and I am free to say that I have learned more about preventing and curing lameness by balancing the foot during the past year in which I have been reading Mr. Roberge's book and in conversations with the author, than I learned in the previous ten years of constant study and a course in a veterinary college. The text-book of the future, upon this subject, if it is not Mr. Roberge's work, will be one written upon the lines laid down in his work. When our colleges advance to this idea, then we will largely dispense with our firing-irons, our blisters, and all other forms of counter-irritation, and cure our lame horses in the more humane and more certain manner of balancing the foot. I believe that the next ten years will show greater advance in the

science of horseshoeing than has been made in the past fifty years.

Again, it will be very difficult to apply the science of balancing the foot if we do not understand the language of the horse upon this point. A horse pointing from an unbalanced foot always points toward the longest part of that foot, and to stop that pointing we have simply to cut away that part of his foot, or, if this is impossible, to build the opposite part of his shoe enough higher to balance the foot properly.

We are very apt to associate the act of pointing and limping with some abnormal conditions interfering with the usefulness of the animal, but I wish to make the statement here for your consideration that, in my opinion, pointing, and even lameness, are not necessarily an assurance of any abnormal condition of the foot or limb. I have known horses to point while standing, and to limp very perceptibly when moved, in the absence of any abnormal condition at all. Some of you may question this statement and ask for proof. I will cite one case which I find but typical of many. A horse that for nearly a year had been pointing one foot when at rest, and was very lame when moved faster than a walk, that had been pronounced incurable by some of the leading veterinarians of our city (and I do not say this as a reflection upon these veterinarians, as I personally feel like taking off my hat to some of them in acknowledgment of their superior mental development), was shod, experimentally, with a centre-bar shoe, and never took a lame step after that time, except when he so stepped as again to force his foot in the position in which it was before being shod with the centre-bar shoe. Now does it occur to any gentleman present that there was any abnormal condition in this horse while shod in the old way that interfered with his usefulness? If there was, can anyone present explain how it should have assumed a normal condition in a fraction of an hour? I think we all believe that pathological conditions are not regulated so rapidly. No. There was simply an abnormal position and not an abnormal condition, and the moment that abnormal position was righted that moment the horse was right. That horse was simply compelled to favor that limb, because we in our blindness gave him an abnormal bearing upon its articular surfaces. I cite this case for two purposes. First, to bear me out in making the statement that pointing, or even lameness, is not necessarily an assurance of any abnormal condition of the foot

or limb, and second, that it may teach you the same lesson it taught me, viz., that balancing the foot is the key to the treatment of lameness, excepting such as may be caused by accidents. I might cite the case of a horse owned by myself, but it teaches the same lessons, with simply a little variation of detail, so I will not take your time with its recitation.

A thorough knowledge of balancing the foot properly is as necessary to the horseshoer and the veterinarian (the opinion of some of our members to the contrary, notwithstanding) as a thorough knowledge of the multiplication table is to a bookkeeper. A bookkeeper who does not understand the multiplication table may keep an accurate record of the daily doings of a firm, but when it comes to balancing his books without a knowledge of the multiplication table he arrives at a correct conclusion only by accident, if he arrives at one at all. And so the horseshoer may be able to make a nice shoe, and nail it to the horse's foot, but without the knowledge of balancing the foot he can benefit the horse only by accident, if he benefit him at all.

The question was asked at our last meeting, "Can a man be an expert horseshoer who is not a practical horseshoer?" If by that question was meant whether a man can understand the scientific part of horseshoeing without being able to make with his own hands a shoe, and nail it to the foot, I would answer emphatically, *Yes!* There is a difference between art and science: Art is the ability to make a thing, while science is the knowledge that tells us whether it is properly made or not. The veterinarian who supposes that he must become a practical horseshoer before he can direct the proper shoeing of a horse makes a mistake which reflects very much upon his intelligence, and the practical horseshoer who believes he understands the science of horseshoeing without having thoroughly familiarized himself with the anatomy, etc., of the foot and limb makes an equally dangerous blunder.

How often we hear some horseowner or groom or adviser of some description saying, "Fit the shoe to the foot, and not the foot to the shoe," without having the least idea of the evil such a thing would do if it were actually practised. They say it because they have heard some one else say it. This is one great trouble, also, with too many of our horseshoers and veterinarians of to-day: we are too apt to take some other man's word for anything and not take the trouble to investi-

gate for ourselves. It were better if we would cultivate a spirit of investigation—or doubt, if you choose to call it so. Doubt, and you will think; think, and you will doubt. The veterinary surgeon and the horseshoer should work hand-in-hand, each striving to help the other as they help themselves. Nothing will keep a profession or a trade from improving its status so thoroughly as the failure of its members to investigate new discoveries in its especial line. So I say to you all, horseshoers and veterinarians, get out of old ruts and see if things do not move along easier. Investigate before you condemn, and investigate with a desire to get more light, and not with a pre-determination to condemn.

But let us return for a moment to that old threadbare saying we referred to a second ago, and which is responsible for a great many lame horses: "Fit the shoe to the foot, and not the foot to the shoe." We see one horse toeing-out and another toeing-in; one horse's heels grow fast and his toes grow slow; another whose heels grow slow and his toes grow fast; one whose inside heel or toe grows faster than his outside heel or toe, etc. Now fit a shoe to all these feet, without fitting the foot to the shoe, and see what kind of a foot you will have in three or six months. If you are a veterinarian and depend upon one of these horses to draw you around in your business, you had better buy a wheel at once or provide some other means of navigation.

I am not one of those who try to lay the blame of all lame horses at the door of the horseshoers, although I believe that a very large majority of lame horses can be cured by proper shoeing, and this large majority are made lame by improper shoeing. But all the improper shoeing is not directly attributable to the horseshoer. How many stablemen or owners bring a horse to the shoeing-shop and direct him to be shod in this or that way, not knowing any reason for so doing, but simply that Mr. Brown or Mr. Smith had one shod that way, and they want the same thing done, and if the shoeing-smith does not do it he loses the work and some other shoeing-smith gets it.

We hear a great deal about the ignorant horseshoer. Well, no one doubts but what there is a great deal of ignorance among horseshoers; but will some gentleman name a calling in which there is not a great deal of ignorance? Look, if you please, at the veterinary profession. Compare it fifty years ago with to-

day, and you will say that there has been a wonderful advance, and yet with all our present learning we are only able to skirt the shore of the vast ocean of knowledge. The wisest among us are those who feel most keenly their need of more enlightenment.

We hear many veterinarians complaining that the profession is not appreciated by the public, but I believe we get, as a profession, all we deserve. Fifty years ago a prominent medical gentleman would have taken it almost as an insult to have been invited to participate with veterinarians in a discussion relative to the public health. To-day leading veterinarians are given prominent positions in such discussions. To-day our own government has recognized our profession by the establishment of a bureau that has accomplished an almost inestimable amount of good for stock-raisers and meat-consumers, and at its head has placed one of our own profession, selected for professional ability and not political preference, of whom every veterinarian (except, possibly, a few soreheads), feels justly proud—Dr. D. E. Salmon—and is constantly showing its interest in our profession by the passage of laws to better its condition. The profession has steadily advanced until there is but a shadow between it and its sister medical profession. The borderland of one reaches within the borderland of the other. Do you ask for more recognition than this? It will be more to our credit if we spend our time in untiring efforts to rise mentally to the occasions constantly being offered to us instead of lamenting that we are not appreciated. How has this change been brought about? Simply by the members of our profession seeking a higher education.

The leaven that has been working in the veterinary profession for the past twenty years is now working among the horseshoers, and will result in the elevation and education of the members of that calling. I have unbounded faith in the ability of the horseshoers to rise to the elevated position awaiting them, and I have this faith because I believe the shoeing-smith of to-day is a searcher after truth; but I believe that he has the prejudices and the teachings of his forefathers to dispel from his mind before he can make much progress in his art.

This leads us to a moment's consideration of the Shoeing-smiths' Bill, which is now, I believe, in Albany. There is only one encouraging feature about the bill, and that is that it demonstrates that horseshoers are awake to the fact that there is a

need of improvement in their line. The bill itself is entirely premature and unworthy the consideration of the horseshoers or the veterinarians. The time for education is at hand, but not the time for legislation. As soon as the horseshoers improve their opportunity of becoming thoroughly learned in the anatomy and physiology of the foot and limb then legislation may be proper and will come easy. This bill can only be characterized as one to benefit the few at the expense of the many. I believe there is a greater future in store for the studious, pains-taking horseshoer than for any other class of workmen on the globe. It will not be long before ninety per cent. of lame horses will be treated in the shoeingshop instead of in the veterinary hospital, and the shoeing smith who does not know how to do it, or the veterinarian who does not know how to direct it, will find himself a back number, and, like the back number of many a magazine, valuable only as a curiosity.

Already I fancy I see in the eastern horizon the morning light of a new era in horseshoeing—an era as far ahead of the old as the lightning express is ahead of a jackass for carrying mail through the country. When I see, as I have seen during our last session at college, horses come in so lame that they could scarcely extend one foot in advance of the other, shod in the old way, and see them then and there shod in the new way, and go out about their daily work with no further treatment, then I feel like extending my hand to every horseshoer, to every veterinarian, and to every one who loves the horse, and solicit their assistance to “ring out the old, ring in the new.”

Between one hundred and one hundred and fifty graduates in Ohio declined to present themselves and their credentials before the Ohio State Board of Veterinary Medical Examiners, and have jointly employed a lawyer to test the constitutionality of the act creating said Board.

SELECTIONS.

A CASE OF RELAPSE IN PNEUMONIA IN WHICH SUBCUTANEOUS INJECTIONS OF THE ESSENCE OF TURPENTINE APPEAR TO HAVE BEEN FOLLOWED BY GOOD RESULTS.—It is not my intention to go into the history of these injections which are practised by a certain number of veterinarians, and which Dr. Fochier, of Lyons, has recommended to give birth to abscesses which he names as abscesses of fixation. Professor Dieulafoy, in his manual of *Internal Pathology*, in the chapter on the treatment of pneumonia, relates two cases of cure which he has obtained in two women with very severe attacks of pneumonia, probably at the point of suppuration. He adds, which seems remarkable, that the pus from the focus was *amicrobien*. My desire is simply to publish a fact interesting enough to induce those who wish to follow my example.

On March 8, 1894, I was called to attend a gelding, of heavy draught, black, seven years old, but recently arrived from Paris. The animal, which that morning had refused his ration of oats, presented the symptoms of beginning infectious pneumonia. The temperature was elevated, 40.4° , and a localization of the disease seemed to have appeared on the left side. Under the influence of a very large sinapism to the chest there was on the next day and the day following an amelioration, at least a sort of momentary calm, such as one often enough observes in similar cases; the temperature was 39.8° to 39.5° . On the 11th the pathological picture was singularly modified: the temperature was 40.5° , and auscultation revealed the sign of double pneumonia. Four litres of blood were withdrawn and two vesicants applied to the chest. I pass over at this time the internal treatment, which was not unusual. Three days later the temperature fell to 38.5° , and, after oscillating for some days between 38.9° and 39.9° , fell on the 19th to 37.6° , and the animal appeared convalescent. He ate, lay down, and appeared to be recovering.

On the 26th he sustained a relapse. He was then in a very alarming state. Staggering gait, greatly injected conjunctivæ, extremely difficult respiration, flank movements, growing evidence of pleurisy complications, pulse quick and small, tem-

perature 40.4° , appetite gone. Such was an exact picture of the symptoms which I observed. I then conceived the idea of making subcutaneous injections of the essence of turpentine. I obtained a Pravaz syringe which contained exactly 3 grammes 50 centigrammes of this liquid. I made two injections, in all 7 grammes. There followed that evening a very voluminous œdema, and the next day toward the latter part of the afternoon the temperature began to fall and the general symptoms were less alarming. The œdema increased more and more, without, however, causing apparent suffering to the patient. A manifest fluctuation appeared, and on the 2d of April I punctured the abscess in two places, letting out about half a litre of white pus streaked with blood, thick, gluey, colloid, exhaling a strong odor of the essence of turpentine. The improvement continued, the alarming symptoms disappeared, the lungs slowly became permeable to air, and the animal entered this time definitely into a period of convalescence. The respirations remaining a little accelerated I submitted the animal to an arsenical treatment, in the course of which the discharge of mucus was quite abundant. The pockets of the abscesses cicatrized rapidly, and to-day it would be difficult to find a trace of their existence.—W. H. BENJAMIN, in the *Recueil de Médecine Vétérinaire*, April 30, 1895.

AFFECTIONS OF THE HEART AND ACUTE FOUNDER IN THE HORSE.—In classical works the etiology of acute founder in the horse includes a mass of varied causes which come for the most part from facts observed by practising veterinarians. There are, however, still numerous cases of founder where the most minute researches cannot reveal any known efficient cause.

I desire to call the attention of my colleagues to a new etiological chapter concerning this disease. In the second year of my practice I observed several successive cases of acute founder in old horses, which worked at light but very regular work, with always identical food, and in which it was impossible to determine any cause which had produced the congestion of the hoofs. A close examination of one of these animals having shown in it a well-developed affection of the heart, my attention was especially called upon this point. Since then I have carefully auscultated the hearts of all foundered animals which I had seen, and the results which I have found authorize me, I believe, to conclude that affections of the heart produce or, at

least, favor the production of acute founder, other causes being eliminated.

The following is a summary of eight cases of acute founder concomitant with disease of the heart which I have observed since 1885 :

CASE I., November, 1886. Large draught gelding, ten years old. Acute founder of both forefeet. Since eight days the horse has worked exclusively at light plowing; has had no change of food for a long time; has had no other known disease within two years. The founder, although severe, has recovered by classical treatment in four days. At my first visit I noticed a slight irregularity of the flank, which I attributed to pain. After the horse recovered the owner told me that the horse had been slightly heavy, but worked well. The pulse was fast, small; auscultation and percussion showed an hypertrophy of the heart and a decided systolic murmur. I diagnosed a chronic endocarditis, without positively finding the point of lesion, which was probably mitral insufficiency. The horse continued work for a year—was then sold.

CASE II., February, 1888. Light work gelding, very old. Founder of both forefeet. Regular work at walk; moderately fed; thin, poor condition. Pulse accelerated and irregular. Palpitations evident. Cardiac shock arrhythmic, diastolic murmur. The founder persisted notwithstanding treatment, and the horse was sent to the knacker. The heart was enormous, surrounded by lesions of chronic pericarditis; the mitral orifice was diminished.

CASE III., March, 1890. Mare, used at a trot; about fifteen years old. Moderate, regular work; food regular and light. Feet good. Founder of both forefeet rather severe, requiring treatment for some ten days. Horse in good condition of flesh; flank irregular; dry cough on leaving stable; percussion and auscultation show slight hypertrophy of the heart; doubling of the second sound, which is trembling. No perceptible murmur. During the next year I saw the horse occasionally at my shop. The cardiac symptoms became worse until she could only trot a short distance.

CASE IV., September, 1891. Very large draught stallion; works at a walk. A veritable skeleton, about twenty-five years old, and about used. Founder of all four feet, the day after a ten-mile haul. Food could not be a factor, as the horse rarely had oats, finding his food by browsing along the road. The horse

made a fair recovery in four days and went back to his collar of misery. He showed all the symptoms of advanced heart-disease: Miserable pulse, hypertrophy of heart, marked systolic murmur. The probable diagnosis was an insufficiency of the aortic valves.

CASE V., June, 1892. Gelding, twelve years old. Light work; regular but light diet. Acute founder of all four feet, which answered to treatment in eight days. Mitral insufficiency, slight hypertrophy; irregular respiration, dry cough; thin, emaciated; pulse feeble—fast; jugular pulse; second sound replaced by a murmur. After cure of the founder the horse was only employed at light farm work, and was put under treatment to quiet chronic endocarditis. The founder was radically cured. In two months there was a second attack of founder of the fore-feet, which was slow in recovering and resulted in depressed soles. At this time there was a marked increase in the cardiac symptoms.

CASE VI., June, 1893. Horse destroyed for founder, showed marked alterations of semilunar valves of the aorta. White lining showed true intermittence.

CASE VII., September, 1893. Stallion, three years old. At eighteen months showed shifting lameness and had been treated by a quack probably for rheumatic synovitis. Horse had only been at light work, but has remained thin with a capricious appetite. Had been attacked with founder in July, 1893, which after treatment by the same quack became chronic. I saw the horse three months later, and found on the two anterior feet enormous cavities and excessively depressed soles. He was hardly able to walk, resting on his side most of the time, until all the bony points were covered with wounds. Respiration was irregular and painful, the pulse small and quick, the shock of the heart arrhythmic, the second sound double and trembling with a rough murmur at both sounds. The characteristic symptoms I attributed to a lesion of the aortic valve consecutive to the rheumatic synovitis. With careful treatment and proper shoeing the horse was able to walk much better, but was unfit for work which would be remunerative.

CASE VIII., August, 1894. Saddle mare, eight years old; has been used as a hunter; now is only used for light work on medium nourishment. Foundered in the two front feet the day after a run of six miles; recovered after five days of treatment. I found a hypertrophy of the heart with doubling of the second sound; no murmur.

That the production of acute founder is favored by the existence of an affection of the heart is not surprising, if one looks into the facts. The congestion of the keratogenous apparatus, whose function is so important and active in the solipeds, can easily be one of the first, after pulmonary congestion, to take place when the course of the blood is interfered with; it is most frequently a mechanical hyperæmia.

The most vascular organs are always those in which congestion takes place most readily, and this last can only be produced by some trouble or other of the circulation: conditions united for explaining logically the production of acute founder (congestion of the podophylleous tissue) by the chronic affection of the heart.

Accordingly as the cardiac alterations take place in one or other of the portions of the heart the congestion will be active or passive, but the results are the same from a clinical point of view. Active congestion produced by an excessive blood pressure can be caused by a hypertrophy of the heart, whatever its cause may be; passive congestion exists always if there is an obstacle to the return of the circulation. Cardiac debility, augmentation of the tension of the venous, is the consequence.

Nearly all authors note that founder may follow the convalescence of severe diseases, such as pneumonia, typhoid fever, anasarca, etc. Hertwig says that he has seen it often after rheumatic affections and especially after acute rheumatism.

Now it is well admitted to-day that these different diseases often leave a chronic endocarditis, with lesions of the different valves. It will be more just to my mind to consider the founder as the result of the cardiac lesion.

The cases that I have given are certainly not numerous enough to be proof, but then they serve as guides to the practitioner who would study more deeply the etiology of acute founder.

Since the time when my attention was called to this point, I have found besides four cases of founder with an obscure etiology in which the most minute examination would not reveal any affection of the heart. In numerous cases of congestion of the foot that I have seen the cause was readily found in the history of severe work, excessive feeding, long idleness in the stable, etc.

In publishing these notes I only desire to submit the interesting question to my colleagues. The future will tell us if the auscultation of the heart of horses affected with founder without

appreciable cause will give results identical to those which I have observed.—M. BESSANGE (*Veterinarian at Orleans, France*), in the *Recueil de Médecine Vétérinaire*.

THE Royal Commission on tuberculosis, appointed in 1890, has recently made its report to Parliament, specially as to the danger from animal foods.

They consider the identity of human and bovine tuberculosis as established beyond doubt.

That tuberculous food eaten reproduced the disease.

That the method of the removal of the meat, the results of inoculation and of feeding, forces the conclusion that when meat is infective it commonly acquires its properties by being accidentally contaminated with tuberculous material during its removal from the carcass.

That milk from cows with tuberculous udders was extremely virulent when fed to test-animals, and, further, that butter obtained from milk from such an animal contained material actively injurious to test-animals. They advise the prompt removal from every dairy of every tuberculous cow with diseased udders.

That the influence of cooking was often overrated through conclusions that the temperature reached had been high enough to destroy all germs, when deep centres of the meat had not been reached with sufficient heat to destroy.

That all milk should be boiled when suspected.

THE *Journal of Comparative Pathology and Therapeutics*, in a leading editorial, calls for better regulations and laws concerning the existence of glanders, and its more thorough eradication. It demands the adoption of mallein as a test agent in all infected stables and studs, isolation and destruction of all animals responding to the test; advises a strong penalty for selling a glandered horse; makes the purchase price recoverable at law; quarantining of all infected premises until free from the disease demonstrated by the mallein test—all of which is just and right and in the direction of a better condition of affairs and the ultimate suppression of the disease. Fortunately for us in America most of our States have strict laws on the subject, and laws compelling the destruction of all known cases, with severe penalties for trafficking in glandered animals.

FROM the *Horse World* we quote from a paper read by F. H. Avery, of Wakefield, Kansas, on the "The Horse Industry." Referring to the future markets he cites the advent of the modern paving-stone, requiring probably two horses to do the same period of service that one did before.

"Under the impetus of irrigation immense areas of arid land are being brought rapidly to a high state of cultivation. The large farms of the country are being subdivided and subjected to a more thorough system of cultivation, all of which will call into requisition more horses. The importation of horses, even for breeding purposes, has practically ceased. We are beginning to export horses to European countries, and in time will, no doubt, build up an extensive export trade with these countries. Mexico and Central and South America, as in everything else, are beginning to look to us for breeding-stock with which to improve their native horses. The Pacific Islands are taking considerable numbers of our horses. The Southern States of our own country used to purchase but comparatively few horses in our Northern markets, but for the last few years they have been enjoying a period of remarkable growth and development, and, with other causes operating to assist, they now, probably, call for more horses annually than the street railways ever did.

"Now if, in the meantime, severe depression has overtaken the business and breeders have become discouraged and are sacrificing their brood-mares, and even forsaking the business, there is certain to be a marked decrease in the supply of horses. That there has been an unmistakable falling off in the extent of breeding here in Kansas is a fact familiar to us all, and distinctly and emphatically so to stallion-owners. In my own section of the State the decrease is as great as seventy-five per cent., and I presume that this is not far from the average for the entire State. Kansas seems to be a pretty good index for the whole country. A year ago a prominent breeder of Illinois sent out a thousand letters of inquiry to all parts of the United States and Canada, and with the exception of about twenty-five they answered. 'The farmers in this vicinity are giving up breeding horses.' A commission dealer of Boston writes that he is handling large numbers of mares, from seven to nine years old, of excellent type. They have evidently been kept for brood-mares. He says that these and other circumstances lead horse-dealers there to the conclusion that there is going to be a short

supply of horses at a not very distant date. Briefly stated, then, the conditions are these: We have a decreased supply to meet a constant demand with, and the effect, other things being equal, will be an increase in prices. But the change may not become perceptible for a year or longer, and we may scarcely expect prices to get back to what they were once.

“Well, we have been taking municipal reform, legislative reform, and tariff reform in allopathic doses for some time, but the system of horse-breeding has been crying for reform in vain. In the palmy days of the industry the character of the market permitted the utmost latitude in management. Careless breeding, careless feeding, and careless preparation for market were the rules, and even then almost every kind of a horse found a buyer at a price generally remunerative. Certainly, even then, the more judgment exercised in breeding and the more care used in feeding and the better the preparation for market, proportionately greater were the returns, but, generally speaking, all classes of horses yielded a profit to the breeder. The prices of other stock fluctuated widely, leaving a balance sometimes on the right side of the account and often again on the wrong side, but the prices of horses remained uniformly high and the balance steadily on the right side of the account. People began to believe that the demand for horses was a constantly increasing one and that the market could never be glutted, with the natural result that everybody wanted to get into the horse business. Men borrowed money and went into the business and others took it up as a kind of a genteel sideline. Well, the latter have been finding all that they could attend to in their legitimate pursuits of late; and most of the fellows that borrowed money and invested it in the business took it out in experience and paid their creditors in the same commodity.

In the early rush for grand-stand privileges, we selected sires from every known breed under the sun, with results equally as diversified. For mares to breed from we saved the good, bad, and indifferent. If they were balky or blemished or vicious, worthless to work, and impossible to sell, we saved them, just the same, to perpetuate their infirmities. What are the results? The quality of the horses in Kansas is probably not above what it was five years ago. Another cause has helped to bring this about. There is a tendency all the time for a man to sell his good horses and keep his poor ones. Not that he wants to

do so, but the buyer wants to buy them. The good ones are nearly always the fat ones, and the harder the times the more likely the owner is to part with them. The remedy is not to keep the inferior ones fat and the good ones poor, but to keep them all fat and keep the inferior ones in sight and the good ones out of sight.

“But to return to the matter of sires and dams. There is a whole lot of horses eating their heads off in Kansas this year that were sired by nothing in particular, but damned by everybody in general. Administer a dose of reform here. Begin a little ruthlessly, as the custom is. Weed out every undersized, blemished, or inferior animal and dispose of them. You probably will not get very rich from the proceeds, but it will, nevertheless, be a sagacious business transaction fraught with good and lasting results. While the reform movement is on do not spare some scrubby old mare because she raises a colt every year. Every colt she raises will run you in debt. Ordinarily these measures of reform would seem unnecessarily rigorous, but the exigencies fully demand them and the conditions are ripe for them. There will never be a more advantageous opportunity to replace cheap, inferior animals with good ones than the present time affords.

“Lastly, fix an ideal and keep it ever in view. Whether you are an admirer of trotting horses, do not mix them up with the hope of getting a general-purpose horse. Life is too short for ordinary horse-breeders to establish any more types of horses, and our posterity may take to the poultry business.”

MR. JAMES LEITHWOOD, F.R.C.V.S., in addressing the Cheshire Farmers' Club, of England, on tuberculosis, has this to say on the question of eating tuberculous meat:

1. The disease is undoubtedly the same in man and animals, and due to the same microbe.
2. Man is the most susceptible to the disease of all animals.
3. Animals much less susceptible to the disease than man become affected by eating the flesh of diseased animals.
4. The deadly virus, the tubercle bacillus, is found in the blood-stream and lymphatics, and hence is conveyed to all parts of the body.
5. Considerable disease and swarms of bacilli have frequently been found in the marrow of bones, and it is therefore impossible to remove all diseased parts when they cannot be seen.

6. The flesh has been proved by experiment to be infective; of thirty-five animals fed on raw flesh 22 per cent. became affected. In another experiment of forty-six fed in the same manner 13 per cent. suffered. Pigs similarly fed for ten days all became diseased (Peuch). Rabbits became affected from juice of muscles from a cow in very good condition, and muscle has been found visibly diseased by Sir C. Cameron, McCall, and others.

Ordinary cooking is insufficient to destroy infectivity; the juice from roasted pork was still able to infect rabbits. Tuberculous flesh after being in boiling water for fifteen minutes still infected 35 per cent. in sixty-two experiments. Tuberculous juice heated in 198° F. infected one animal in six.

In cooking meat the albumin coagulates at 162° F., and if the red juice oozes out when carving the albumin is not coagulated, which shows that the temperature has not been sufficient to kill the bacilli.

Kastner caused the disease in nine out of eleven cases with injection of muscle-juice. Professor Galtier has also produced the disease with the juice of muscle. Professor McFadyean says: "Every animal having localized tuberculosis is exposed to the risk of generalization by the bacilli gaining access to the blood-stream, and it is never possible to state with certainty that such a condition is not already in existence." He also asserts that he has frequently seen butchers when dressing carcasses wipe their knives across the flesh after using them for removing tuberculous lesions. I maintain that if flesh from graped animals must be sold for human food let it be labelled as such, and see who will buy it.

The public have a perfect right to be protected from deception in fresh meat just as much as in butter or any other commodity, and when they go to the shop to buy beef they ought to get beef, and not beef plus a deadly virus. There are many good men who are in doubt whether there is a risk in the consumption of tuberculous meat or not, but I contend that even they ought to give the human life, and not the microbe, the benefit of the doubt. When we lost 35,000 souls in the Crimean War was it not considered to be a great national calamity? And yet we serenely allow this terrible foe to take from us every year four times that number, and do next to nothing to stem the march of the enemy. I am quite of opinion that the quantity of bacilli in the muscles of the affected animals may not be large,

that cooking the flesh undoubtedly destroys some of them, and that even though a few may remain it is probable that the flesh may be eaten with impunity by the whole population of this country, if everyone of them were in perfect and robust health.

But what of those who are not so? Are there not thousands of them? How many just recovering from some severe illness; how many debilitated from insufficient food and clothing; how many, from numberless causes, whose vitality has been brought below the powers of resistance to this deadly foe? There are thousands of these weakly ones always with us, and, as I have already told you, this is just the condition which is most favorable for the growth of the microbe. This organism, like every other parasite, either animal or vegetable, thrives best on and glories in the weakness of its host; and are we going to continue to allow this almost infinitesimal foe to have its own way, and to pick out from among us its yearly number of victims to the extent of 150,000 human lives?

I earnestly hope and honestly think we shall not, and I unhesitatingly affirm that not one ounce of flesh from any tuberculous animal, whether it be from cattle, horses, pigs, sheep, fowls, or rabbits, ought to be permitted to be used for human food, not yet even for the food of animals.

The milk of tuberculous animals is still more infected and still more dangerous than the meat (especially when the udder is affected) owing to its being generally used in its uncooked state. Professor Macqueen says: "No one can gauge the amount of mischief done through the use of milk that is too often loaded with the germ of tuberculosis." Professor Arloing says that the danger is so great to children that it can scarcely be exaggerated. Over 2000 tuberculous children under two years of age die annually in Paris alone, and it is probable that more than half of these are due to the consumption of tuberculous milk. Professor Delepime reports a case of a child, four months old, without any hereditary predisposition, dying from tuberculosis of the mesenteric glands. It had been fed with milk from a cow kept specially for the purpose, which, when killed, was markedly tuberculous and bacilli were found in the udder. Dr. Sims Woodhead says "mesenteric or abdominal tubercles are far the most frequent in children." Professor McFaydean and Dr. Woodhead found that tubercle of the intestine was present in 43 cases out of 127 analysed, and that the tubercle of the mesenteric glands was present in 79 per cent. of cases,



and more than half of these were found in children between the age of one and five years, during the period after they were weaned, when cow's milk would be taken in the greatest quantity. From a series of inoculations with milk from tuberculous udders over 70 per cent. had become affected. Hirschberger finds that the bacilli are found in the milk in 33 per cent. of tuberculous cattle, and Ernst inoculated with milk from cows without udder affection and caused the disease in 37 per cent. of cases.

The bacillus has been found to retain its vitality for ten days in milk, fourteen days in whey and cheese, and thirty days in butter. Dr. Ferro, of Turin, has found 10 per cent. of different samples of foreign butter to contain the microbe and infect guinea-pigs fed with it.

There are numbers of cases to prove the dangerous power of infected milk, which is recognized by the most reliable authorities to be the chief source of tubercle in children in the form of *tabes mesenterica* and *tubercular meningitis*. All the great authorities are agreed on this point, that the question of the consumption of tuberculous milk is one of the greatest possible importance to the children of this country; and I am sure you will agree with me that it is the bounden duty of every one of us to do our utmost to protect these innocent and helpless ones who are incapable of doing anything themselves against this deadly enemy.

A striking instance of infection in a family is related by Mr. Tedbar Hopkin, in which all the females who drank milk became tubercular, while the male members of the family, whose favorite beverage was whiskey, remain healthy to this day. The only safeguard now practised against infected milk is to see that it is well boiled for not less than five minutes. There is also less risk in using the mixed milk from a large number of cows than from one single animal. If that one cow should be tubercular it is almost a certainty that a child continually fed from it must become affected.

Then, let us not, gentlemen, shirk our responsibility in the matter, but, like men, look straight at this great danger, and be not satisfied until we have removed every possibility of infection from our milk-supply, and thereby effectually clear away that element of doubt that now hangs over our best, cheapest, and most perfect of all foods. There is nothing that contains every element of nutrition in its proper quantities to nourish the body except pure milk; all other foods have either some element

wanting or something in excess, and if the working population could be persuaded to use pure, nutritious milk instead of so much tea (which does not contain one atom of nourishment), it would add much to the strength of the future generation of this country.

DR. S. G. DIXON, of the Academy of Natural Sciences, speaking on the subject of "Purity of Milk," before the Horticultural Society's Farm and Dairy Section of Philadelphia, said:

"Rarely, if ever, do the tubercle bacilli find their way into the milk from a consumptive cow, unless she has tuberculosis of the milk glands, and, in connection with this statement, I have reason to believe that only about $2\frac{2}{5}$ per cent. of the tuberculous cows have such mammary tuberculosis.

"If this be so, we should not allow our attention to be diverted from other and more fertile sources from which the tubercle bacilli may find their way into the milk. For example, consider the probability that there may be a greater number of consumptive attendants about a dairy than of cows with tuberculous udders, since only $2\frac{2}{5}$ per cent. of all consumptive cows are in such condition, while nearly one-seventh of all human deaths occur from tuberculosis, and then picture to yourself an attendant, well advanced in pulmonary consumption, poverty-stricken, careless and uncleanly as regards his clothing and person, who not only scatters thousands upon thousands of the bacilli by expectoration upon the hay, bedding, and all about the stable and dairy, but even washes the germs from his hands, which he has failed to cleanse before milking, directly into the pail. Other ways by which the organisms might find their way into the milk before its delivery to the consumer will readily occur to you; but, while I fully appreciate the great importance of having milk from healthy animals, the above will suffice to show you why I do not believe in straining at gnats and swallowing camels.

"We do not want to kill every cow in Pennsylvania that has simply a localized pulmonary consumption, because few, if any, of these give tuberculous milk; but we do want to improve the health of our animals, and, above all things, to have as dairy attendants persons who are not suffering from consumption or other loathsome and dangerous diseases.

"The first step to be taken to guard against the impurities of which I have spoken will be to send to every farmer of our own

and adjoining States printed circulars informing him of the sources of danger, and showing him how necessary it is for him to have his stables clean, well lighted, well ventilated, and dry; to keep the animals themselves clean and well fed with varied and nutritious food, and with access to plenty of pure water three times a day at least; to have only clean and healthy men and women about the stables and dairy; to have a wash-room with hot and cold water, plenty of soap and clean towels near the milking stables, etc. Then, if the average farmer is as much of a man as are those it is my pleasure to know, he will try to make use of this information, and will do much to protect the milk from the various germs of disease.

“No chemical or other substance should be added to the milk, either to color it or to render it alkaline. The vessels for keeping and conveying the milk to consumers should be thoroughly cleansed, scalded, and exposed to sunlight and air each time after use, and the separate jar system requires especial care in this respect, for the jars are frequently carried into sick-rooms, where children may be ill with scarlet fever or other infectious diseases, and may be returned to the milkman and thence to the dairy without having been properly sterilized. If the dairyman fails to sterilize it, it may serve to carry the infection to other families or children. This, however, is only a danger when the milkmen are ignorant and careless, and of such let us hope that there are few. I might here suggest the delivery of milk in jars so cheap that they could be destroyed or discarded immediately after use. I should think that such jars might be made and furnished to dairymen in quantity for a fraction of a cent a piece.

“Again, I think we should try to spread the information and to teach mothers and others that good milk is not necessarily of the rich yellow color such as they demand and tempt the dairymen to produce by the use of artificial coloring matters.

“Lastly, we should realize that if we want milk from a healthy herd of clean, well-fed cows, kept in well-lighted, well-ventilated, dry stables, attended by healthy, clean, and intelligent persons, we should realize, I say, that such milk cannot be furnished at the present time in Philadelphia for less than nine or ten cents a quart, and we should be willing to pay this price and to allow the producer to make something more than a starvation living from his business.”

TUBERCULOUS MEAT.—It is now universally acknowledged that the flesh of animals suffering from the disease in a severe form, with fever and emaciation, ought to be absolutely condemned as unfit for human food, and ought not to be given to carnivorous animals, but destroyed.—*British Medical Journal*.

THE INFLUENZA ORGANISMS.—That epidemic influenza is to be classed among the germ diseases will be doubted only by those who hold that there is no such thing as a germ disease at all. It matters little by way of proof whether the specific germ has been discovered as yet or not, although there is reasonable probability that the bacilli described by Pfeiffer and Kitasato are the sought-for cause.—*Northwestern Lancet*.

ANTITOXIN.—Doubtless it is yet too early to declare that the efficiency of the antitoxin treatment has been demonstrated, but it must be said that the prospect of such a demonstration is apparent. Whenever any inquiry of this sort is before the profession, and especially when it is before the public, as in this instance, there are never wanting those who set their faces with the fixity of fanaticism against the measure, can see no good in anything so novel and radical, and seize upon every misadventure in its employment to confirm and justify their opposition.—*New York Medical Journal*.

HONORS TO VETERINARIANS.

The French Government has just conferred the rank of Officer of Agricultural Merit upon Messrs. Chauvéau, Member of the Academy of Science, Inspector-General of Veterinary Schools and Officer of the Legion of Honor; Trasbeau, Member of the Academy of Medicine, Director of the National Veterinary School at Alfort, and Officer of the Legion of Honor; Nocard, Member of the Academy of Medicine, Professor at the National Veterinary School at Alfort, and Officer of the Legion of Honor.

The rank of Chevalier of the Legion of Honor has been conferred upon Mr. Alfred Faure, Professor of Natural History at the Veterinary School of Lyons.

EDUCATIONAL.

The Board of Trade of Minneapolis held a meeting on the 1st of April to direct public attention to the defects of the present system of milk and dairy inspection and the presence of bovine tuberculosis.

Dr. Charles E. Cotton, V.M.D., addressed the Board on the value of tuberculin as a diagnostic agent, and the absence of danger from its use when properly employed. He reported three herds tested by him at the solicitation of the State Board of Health. In a total of seventy-one cattle twenty-seven reacted.

Dr. M. H. Reynolds, Professor of Veterinary Science in the State University, addressed the meeting on the importance of some action being taken. Speaking of infected animals, he said that if infected at all they may be infectious and may be a dangerous factor in the stable. He reported that experiments with tuberculin were being made at the State experiment station, not only as a diagnostic agent, but also to determine better whether it has not curative properties in conjunction with other helpful environments. He further expressed the opinion, from close study and careful observation, that the presence of tuberculosis was not so largely a condition of breed as of individuality and surrounding conditions. He advised the testing of all herds furnishing milk to the city; that breeders should be taught the great danger of breeding tuberculous animals. Closing, he advised a more thorough education of the people to the dangers and the plans that give the greatest immunity from its dangers.

The subject was discussed at great length by many others, after which the Board of Trade adopted resolutions calling attention to the defective system existing for the production and sale of milk, and that the City Council should take the necessary steps looking to the establishment of a thorough and systematic inspection of milk dairies and dairy herds under the Health Department, and all vendors of milk should be licensed.

Philadelphia Milk Inspectors condemned some 527 quarts of milk during April as watered, colored, or skimmed.

EDITORIAL.

THE JOURNAL takes pleasure in announcing that it has added to its editorial staff, as a joint editor and owner, the name of Prof. H. D. Gill, Secretary of the Faculty and Professor of Theory and Practice in the New York College of Veterinary Surgeons. Dr. Gill's long connection with the teaching staff of the above college, his many years of active practice in connection with the college hospital and outside practice, his association with the Bureau of Animal Industry as an Inspector, his close affiliation with the United States Veterinary Medical Association, and his State and local veterinary associations, mean much to the readers of this JOURNAL, and will add much strength to the efforts now being put forth to make the JOURNAL the best publication of its kind in North America. We bespeak for him at the hands of the readers as warm a welcome as has been accorded him by the Editors on his acceptance of a place with us in the publication of this periodical.

THE JOURNAL'S attention has been called to the question of good roads, and its influence sought in behalf of this all-important question throughout this country. It should hardly have been necessary for our attention and support to have been asked for in behalf of this movement, when the success and extent of our work is linked so closely with the aims and purposes of the efforts now being put forth to obtain these necessary adjuncts to every successful and progressive community. Every horse-owner, breeder, and driver is interested; hence every veterinarian, whose income largely depends upon the worth and number of the live-stock in his district, has a deep and yet somewhat selfish interest in the question of good roads. Good roads in a community mean better horses and more of them, and more driving of all kinds; they lead to increased business in all directions. Good roads encourage coaching in all its various forms, and the lessened number of those painful accidents incidental to bad roads means that fewer abandon driving each year, and the better roads attract thousands yearly to this pleasant diversion. Yes, we are heartily in favor of the movement, and the columns of this JOURNAL will be ever ready to second in any

and all States the good work so well begun in Massachusetts, and which is now being thoroughly agitated in New York, Pennsylvania, and New Jersey. Let every veterinarian be an agitator as well as supporter of every movement in this direction in his community, and he will aid himself while aiding others, and the intelligence, well-being, and thrift of his locality can be well measured by the extent and keeping of good roads.

THE New York State Veterinary Medical Association will hold a special meeting this month to take suitable action relative to the Board of Regents' Bill recently passed by the State Legislature, which will regulate the practice of veterinary surgery in New York State.

ENGLISH veterinarians should be extremely careful in not making an error in regard to their so-termed "American Sheep Disease." Their blunder on contagious pleuro-pneumonia has already placed them in an unenviable light among American veterinarians. They should remember that tuberculosis is an extremely rare disease in the sheep family; that diseases of parasitic origin are quite common in sheep the world over. The disease, so far as we glean from English veterinary journals, is of a parasitic character, is not new, does not confine itself to America, and as a rule is only discovered post-mortem or when being killed in the abattoirs for consumption, so that as a rule it can be said to cause little or no appreciable disturbance in the animal's health.

GROWTH OF VETERINARY LITERATURE.—Perhaps in no one direction has the English-speaking veterinarian been more favored the past few years (especially the last two) than by the growth of veterinary literature. It might be equally well said, on the other hand, perhaps, that no nation was so ill-supplied with modern scientific veterinary literature as English-speaking countries: America, it seems, like every other nation, has had to pass through the kindergarten stage, or age of transformation, when all the literature had a double destiny, that of being so written and prepared to serve equally well the horse-man or horse-owner and the veterinarian.

The growth and development of the schools found a serious difficulty confronting them in the sparsity of works to advise the student to secure for consultation and reading, and it seemed

a long wait for the situation to be changed ; but at last came the dawn of a better period, and we can now predict in the future the time when English-reading veterinarians will, like their foreign brethren, commence the process of selection of those works specially adapted for their particular line of work.

With this number we briefly review the many valuable additions to our store in the various branches of our work, and feel justly proud of this opportunity to accord the various authors our meed of praise for their labors, that have so much enriched us in the truest worth of any nation or people.

THE Western Pennsylvania Veterinary Medical Association has ceased to hold meetings. As an important veterinary centre with many excellent practitioners this should not be, and we trust an earnest effort will be made to reorganize and take up the good work that awaits their doing and commands their responsibility.

OUR readers' attention is called to the well-written letter to one of the editors of this JOURNAL from that active, earnest, progressive veterinarian, Dr. Williams, of Montana, and for its publication there need be no apology.

PENNSYLVANIA POINTS THE WAY.—By the adoption of the act establishing a State Board of Veterinary Medical Examiners, the State of Pennsylvania gives notice to all future graduates that may desire to practise veterinary science within her borders that they, one and all, must come from Colleges maintaining at least a three-years' course of six months each, each session to be in different years. This equipment grants them the right to present themselves before the board for examination, and then will come the test as to how well this work has been done by those who compose the teaching-staff of the various colleges. This step by the Keystone State will surely be followed by many other States, under the new legislation or through amendments to existing laws, and dates the sure and early extermination of the two-year schools. How much better it would have been for all the schools to have kept just a little in advance of possible laws like this, for they have not come too soon ; the country is filled to-day with an oversupply of half-equipped veterinarians, and the ignorance of the general public to this fact will deter for many months a refilling of the benches of the colleges until they better understand how narrow is the actual equipment.

ASSOCIATION OF FACULTIES OF VETERINARY COLLEGES OF NORTH AMERICA.—When this Association convenes in September next, as we take it for granted it will, there will be many questions of grave importance come up for consideration. With the changes at the United States College, the Veterinary Department of the Ohio State University and the new laws now in force in Pennsylvania, New York, Maryland and Ohio, with perhaps other States between now and then, all of which will command from it earnest consideration, and we sincerely trust will bring into the organization every other two-year school now in existence.

APOLOGY FOR DELAY.—After waiting many days for the necessary electros for illustration of the history and new home of the New York College of Veterinary Surgeons, we were forced to go to press and delay its publication until the July number, when, in conjunction with that issue, we will publish a brief review of what is going on among the colleges. This will keep our readers posted on every movement of the various veterinary colleges in North America, and better enable a more thorough and just consideration of college affairs at the coming meeting of the United States Veterinary Medical Association.

TO OUR SUBSCRIBERS.—With the publication of the June number the JOURNAL will adopt a new rule with its readers. For many years this JOURNAL has continued an unusually lenient course in regard to the payment of subscriptions, in some instances carrying on its books three or four years' back fees, until its losses and uncollected fees have run into several thousand dollars, an amount which has entirely come out of the former editors' pockets. We regret to say that this favoring of its readers has in a large percentage of cases ended in total loss. With the July number we will adopt the plan of rendering a statement at the end of all subscriptions with each current month; a second statement will be rendered during the year, and if said amount is not paid during the yearly term or a satisfactory reason given the managing editor, all journals will be discontinued within thirty days after second notice is sent. We are sure from past experience that it is easier to pay one year than two, and that two years' credit has invariably been followed by a third, and that with it came an indisposition to pay. The JOURNAL has to make settlement of its accounts every thirty days, and we shall spare no expense in making the JOURNAL

more readable, attractive, and valuable to its every subscriber. Doing this we feel that we have a just right to expect the help of our subscribers.

UNITED STATES VETERINARY MEDICAL ASSOCIATION.—Another annual meeting of our Association will soon be at hand, and no doubt many of our members are awaiting with interest the programme of the meeting, so far as it can be arranged at this early date. That the meeting will be a social success cannot be doubted. That it is to be an intellectual treat past experience leads us to believe. Nothing so improves us as to meet with each other and exchange opinions. Nothing leads to so much good-fellowship and makes of us better individuals. Life would indeed be "not worth the living" were it not for the reward of work in pleasure, and there is no pleasure so great for those who have any desire to learn as that which, under a change of surroundings, and amid old friends and new acquaintances, adds to our store of knowledge in our life's work. It is to be hoped that a large number may be induced to go on to Iowa from the East, so that special cars may carry the members from Boston, to be joined by others from New York, Philadelphia, and Baltimore, and so on to the West. Such an excursion would greatly reduce expenses, besides being of great advantage from a social standpoint. Under no other circumstances is there such an opportunity for mutual exchange of opinions as upon a long railway journey. This JOURNAL would be glad to get the opinion of the members in the East upon this matter and to further in any way such a project.

NEW PUBLICATIONS.

In the domain of veterinary science so much good material has recently been added that we can only briefly allude to some of the most important and valuable additions with which the profession has been favored the past two years.

Looking over the field of veterinary medicine we find added to our storehouse the recent edition of Hoare's *Manual of Veterinary Therapeutics and Pharmacology*, which brings to us fresh knowledge gained through many sources and presents for our pleasure its contents in a new and attractive form.

A fifth edition of Tuson's *Veterinary Pharmacopœia* has recently been issued, which is the best evidence of the stronghold this book still retains among the profession. The ready manner with which one can refer to the actions and uses, preparations, incompatibles, etc., of each drug still insures for it a true place in our libraries and pharmacies.

With these might be mentioned the *Veterinary Pharmacopœia, Materia Medica, and Therapeutics* of the Doctors Gresswell, with clear descriptions of and the physiological actions of medicines to enable one to become more thoroughly posted in this important branch of our every-day work.

In the direction of surgery, where so much grand work has been accomplished the past few years and which has been so much simplified to us, by a greater knowledge of anæsthesia, general and local, newer modes of restraint, operating tables, etc., we have had much new light shed on such important operations as laryngotomy, through the work of Prof. Fleming and through the translation by Prof. Dollar of the French work of Prof. Cadiot.

In addition to these we have had that valuable contribution of that eminent veterinary surgeon, Prof. A. Liautard, whose work comes to us none too soon, for our needs were great.

Along with these free-will offerings, we are now promised this year the second volume of Fleming's *Surgery*. We are quite sure that our every reader will be glad to learn this news from our columns, for all who have been favored by the possession of the first volume prize it highly for its clearness and completeness.

Later news comes to us from that ever-progressive veterinary publishing house of New York City, W. R. Jenkins, that they have in preparation a translation of Mallir's *Surgery*, all of which will be gladly learned by every veterinarian.

In another direction we have had a special contribution for our study and consideration in the book prepared by Dr. David Roberge on *Lameness and Diseases of the Foot Traced to an Unbalanced Foot-bone, and the Value of Balancing the Foot*.

Of the publication in English, by Prof. W. L. Zuill, of Friedberger & Frohner's *Pathology and Therapeutics of the Domestic Animals*, it can be well said that it fills in great measure a long-felt want and will be read and re-read with increasing pleasure and a better understanding of this branch of our work day by day.

Drs. J. B. & A. Gresswell have added the second edition, enlarged, of their *Manual of the Theory and Practice of Equine Medicine*.

To these have been added, through the untiring labors of Prof. Fleming, to whom we are all so greatly indebted, the translation of that comprehensive work of Prof. L. G. Neumann, of Toulouse, concerning *Parasites and Parasitic Diseases of Domesticated Animals*, a subject of great importance and given entirely too little consideration at the hands of the general practitioner.

Horses, in Accident and Disease, has been added for general reading and for students by Mr. J. Roalfe Cox, Fellow of the Royal College Veterinary Surgeons.

A more recent work partially devoted to the *Diseases of Cats* has been added to our literature by Prof. R. S. Huidekoper, and well merits the attention of city veterinarians under whose care these members of the feline family frequently fall.

The Laws of Sale and Warranty and the all-important question of *Soundness or Unsoundness in Horses*, a subject that greets us daily and tries our very souls, has been prepared for our better guidance by Mr. J. Irwin Lupton, Fellow of the Royal College of Veterinary Surgeons. Works of this character are ever sought out by the veterinarians of large cities, where this work of inspection forms a large part of the daily routine.

The ever-interesting field of physiology with all its important relations in our sphere of work has not been forgotten in the literary progress of the near past, and this boon, emanating from the pen of Veterinary Capt. F. Smith, M.R.C.V.S., makes a very distinctive claim in that it is a strictly veterinary physiology.

From the same author has also emanated a second edition of a closely allied work, a book destined to stand for us as a *Manual of Veterinary Hygiene*. The importance of this subject, so much more fully realized and appreciated since the subject of bovine tuberculosis has been uppermost in our thoughts and plans, makes it a valuable line of thought, and will no doubt lead to other works in this direction and be a means of establishing for the domesticated animals a better condition of affairs, a higher standard of stable hygiene, and better sanitary environments.

Microbiology, a subject of so much importance in the present status of medicine, is concisely considered by Profs. Mosselman and Leinaux, of the National Veterinary College of Cureghem, Belgium, in their work so well received abroad. Through the labors of Prof. R. R. Dinwiddie this work has been translated into English, and will be read by every progressive veterinarian in America and Great Britain.

The Book on the Cat, by Prof. R. S. Huidekoper, published by D. Appleton & Co., has reached our tables, and it will well fill for a time a serious void in our libraries as a guide to the classification and varieties of cats, and add to our knowledge of their care, diseases, and treatment. Its greatest fault is its brevity, and the numerous ailments affecting the members of the feline family are only treated upon in a more or less general manner. We trust that it will prove a fruitful source of interest and that its reception will lead to a more thorough and exhaustive treatise in this sphere of our work.

To these very valuable works have been added many others, treating of specific subjects, lines of investigation, newer methods of horseshoeing, etc., but we have briefly called attention to a few of the most important, and it will come as a rude awakening to many who have not summed up from time to time the great and good growth of English veterinary literature.

SOCIETY PROCEEDINGS.

KEYSTONE VETERINARY MEDICAL ASSOCIATION.

THE monthly meeting was held at the office of Dr. W. H. Hoskins on the 21st ult., having been postponed from the 14th, the regular night of meeting.

The meeting was called to order by President Lintz. Then followed roll-call, reading and adoption of minutes of previous meeting, and committee reports, during which it was learned that the bill to establish a State Board of Veterinary Medical Examiners needs but the Governor's signature to become a law.

On motion, President Lintz appointed Drs. Hart and Rhoads as a committee of two to confer with the State Association as to what could be done toward having men appointed on this board who were willing to make personal sacrifices for the advancement of the profession, and not men who want it solely for self-aggrandizement and personal advancement it would bring them, and whose only claim or hope of obtaining it is the political influence they can bring to bear.

The meeting adjourned to meet at Lansdowne, June 11th, where they will they will be entertained by Dr. Rhoads.

W. L. RHOADS,
Secretary.

VETERINARY MEDICAL ASSOCIATION OF NEW YORK COUNTY.

THE regular meeting was held at the New York College of Veterinary Surgeons, on Tuesday, May 7, 1895, at 8.30 o'clock, the President, Dr. Huidekoper, in the chair.

On roll-call the following members responded to their names, viz., Drs. Bretherton, Caulfield, Dickson, Delany, Ferster, S. S. Field, H. S. Field, Giffen, Gill, Glover, Huidekoper, Hanson, Lellman, Machan, Neher, Ryder, Richards, Sherwood, Sielman, Turner, Wolters, and Wellner.

The minutes of last meeting were read and adopted.

The chairman of the Board of Censors, reported favorably the name of Dr. M. O. M. Knott, a graduate of the New York College of Veterinary Surgeons, vouched for by Drs. Giffen and Delaney.

The resignation of Dr. A. Liautard, which was laid over at the last meeting, was then taken up, and it was moved by Dr. Field and seconded by Dr. Giffen, that it be accepted. Carried.

Papers being next in order, Dr. Ferster read a very interesting paper on "Horseshoeing," giving many practical points upon the art (*vide* p. 348).

Reports of Committees. Judiciary Committee: Dr. Giffen reported as follows: The Jury Bill had passed both houses and had been signed by the Governor; the bill granting an extension of time for non-graduates to register had been killed in the Senate; the Regents' Bill had passed the Assembly and will be up for third reading in the Senate during the present week. Moved and seconded, that the report be accepted; carried. Moved and seconded, that the expenses incurred by Drs. O'Shea and Huidekoper

during their trips to Albany be paid ; carried. Moved and seconded, that a vote of thanks be extended to Drs. O'Shea and Huidekoper for their good work at Albany ; carried.

Committee on Certificates reported progress.

Committee on Revision of Constitution and By-laws : Dr. Hanson, acting chairman, made the report for the committee. It was then moved and seconded, that each article be taken up separately and acted upon ; carried.

ART. IV. Constitution. The annual election shall take place on the evening of the first Tuesday of December ; carried.

ART. VI. By-laws. A board of Censors shall be elected by the members at each annual meeting ; not adopted.

ART. VII. 1. Charter Members : All those practitioners of veterinary medicine who were present at the first meeting to assist in the organization of the above Association, etc. ; adopted.

2. Future Members : Applications for membership shall submit their names upon one of the Association's application blanks, duly vouched for by two members of the Association. The initiation fee shall accompany such application, which is returnable should he not be elected to membership ; adopted.

3. A two-thirds vote will be necessary to constitute an election to membership ; adopted.

ART. VIII. A member elect shall pay to the Treasurer his annual dues, which shall be five dollars ; adopted.

ART. XIII. The Association shall meet upon the first Tuesday of each month, except during July, August, and September ; election falling on a Tuesday the meeting will be held the following Thursday ; adopted.

ART. XIV. The Judiciary Committee shall consist of five members, elected at the annual meeting ; not adopted.

Code of Ethics : No member shall endeavor to build up a practice by undercharging his brother-member ; adopted.

Committee on Charges reported progress.

Election of Members : Moved and seconded, that the by-laws be suspended ; carried. Moved and seconded, that the Secretary cast a ballot for Dr. Knott ; carried. Dr. Knott was then declared a member of the Association.

New Business : Moved and seconded, that the Constitution and By-laws be printed as adopted ; carried. Moved and seconded, that a committee of five be appointed as a Reception Committee for the State Meeting to be held in this city in September next, the said committee to report at the next meeting ; carried. Meeting adjourned.

J. E. RYDER, D.V.S.,
Secretary.

REUNION OF GRADUATES OF THE AMERICAN VETERINARY COLLEGE.

DEAR DOCTOR : A reunion of the American Veterinary College graduates now in Pennsylvania will be held at Lansdowne, Delaware County, Tuesday, June 11, 1895, at 4 o'clock. Trains leave Broad and Market Streets at 3.18 and 3.47. Lunch will be served. The encouragement we have received throughout the State warrants us in expecting a well-attended

meeting and trust that you may be one of the number, as the State Alumni Association, started in February, will be placed in more definite shape, and officers for the ensuing year will be elected.

The future of veterinary medicine depends largely upon the closer affiliation of the veterinary practitioners, and this is accomplished best through closer associations of the alumni, and we hope the American Veterinary College may in the future, as in the past, maintain the lead among veterinary colleges.

A meeting of the Keystone Medical Veterinary Association will be held in the evening, and we sincerely hope that all will remain and attend it.

Hoping to have the pleasure of meeting you at that time,

I am fraternally,

W. L. RHOADS,

Secretary.

LANSDOWNE, PA.

NEW HAMPSHIRE VETERINARY MEDICAL ASSOCIATION.

ON May 7th, veterinarians of New Hampshire met in the Eagle Hotel, Concord, and organized a State Veterinary Association. The Constitution and by-laws were signed, having been framed and accepted at a previous meeting in April. Officers for the ensuing year were elected as follows: *President*, W. Russell, Nashua; *Vice-President*, J. Hart, Concord; *Secretary*, L. Pope, Jr., Portsmouth; *Treasurer*, A. F. Abbott, Manchester; *Executive Committee*, Drs. L. E. Tuttle, Franklin Falls; A. L. Dodge, Manchester; R. J. Macguire, Concord.

L. POPE, JR.,

Secretary.

THE meetings of the Wyoming Valley Veterinary Medical Association, held during the past winter, have been fairly well attended. Tunckhannock, Scranton, and Wilkesbarre have all been favored with meetings, and a number of papers have been read, among the more important was one on "Traumatic Pericarditis," by Jacob Helmer, of Scranton, Pa.

THE present officers of the North Dakota Veterinary Medical Association are as follows: I. Turcot, *President*; B. C. Taylor, *Vice-President*; T. D. Hinebauch, *Secretary-Treasurer*.

ATTENTION is called (under "Society Proceedings") to a proposed association of the Alumni of the American Veterinary College in Pennsylvania. The Secretary *pro tem.*, Dr. Rhoads, earnestly requests as large an attendance as possible, and we thoroughly indorse the movement. It is in the right direction, and the American Veterinary College deserves well at the hands of her graduates.

MAINE veterinarians should give their energetic and earnest-working officers a stronger support, and thus place their Association in a more thorough working condition alongside of its neighbors in Massachusetts and New Hampshire.

DR. LEONARD PEARSON will be among those who will read papers at the coming meeting of the Keystone Veterinary Medical Association at Lansdowne. A generous invitation is extended the profession in the vicinity of Philadelphia to be present on the evening of June 11, 1895.

LEGISLATION.

NEW FRENCH LAW RELATIVE TO THE PREPARATION, SALE, AND
DISTRIBUTION OF THERAPEUTIC SERUMS AND
OTHER ANALOGOUS PRODUCTS.

The French Government, upon April 25, 1895, promulgated the following law :

ARTICLE 1. Attenuated viruses, therapeutic serums, modified toxins, and analagous products used for the prophylaxis and therapeutics of contagious diseases, and substances for injection of organic origin not defined chemically, applied to the treatment of acute and chronic affections shall not be either retailed gratuitously or for pay unless they have been in their manufacture and delivery subject to the authorization of the Government, given upon the advice of the consulting committee on public hygiene of France and of the Academy of Medicine.

These products will be approved by a temporary authorization which is revocable. They are subject to an inspection by a commission named by the proper Minister.

ART. 2. These products will be given to the public by pharmacists upon medical prescriptions. Each bottle or holder will bear the stamp of the place from which it comes and the date of its manufacture.

In urgent cases physicians are authorized to furnish these same products to their patients. When they are destined to be used gratuitously among the poor the bottles containing the products shall have on the glass the words, "public aid, gratuitous" (*Assistance publique—gratuit*). They can then be furnished outside of the shops and pharmacies, and under the surveillance of a physician in public establishments designated by the administration, which will have the liberty of procuring the products directly.

These conditions do not apply to the vaccine of Jenner, human or bovine.

ART. 3. The delivery of the substances mentioned in Article 1, by whatever name they may be called, will be assimilated to the sale and subject to the dispensations of Article 423 of the Penal Code, and to the law of the 27th day of March, 1871. Therefore, all those who shall have deceived concerning the nature of

the substances which they know to be false and contaminated, and those who will have deceived or attempted to deceive concerning the quality of the substances delivered, will be punished by the penalties demanded in Article 423 of the Penal Code and by the Law of the 27th day of March, 1871.

ART. 4. All other infractions of the conditions of the present law will be punished by a fine of from sixteen to one thousand francs.

PENNSYLVANIA.

The bill to establish a State Board of Veterinary Medical Examiners passed the Senate on May 7, 1895, with but few dissenting votes, and Governor Hastings signed it. This Act goes into effect June 1st. The Board will meet to organize in September next. The Governor has not yet announced his appointments.

Through the untiring efforts of Dr. Leonard Pearson, President of the Pennsylvania State Veterinary Medical Association, the bill establishing a Live-stock Sanitary Board passed the Senate on May 15, 1895. Governor Hastings signed the bill on May 21st, and its provisions will go into effect on June 1, 1895.

The bill to legalize dehorning of cattle in Pennsylvania was temporarily halted in its passage by the votes of the legislators of the cities and towns, under the strong influence and pressure of the Societies for the Prevention of Cruelty to Animals. The bill was afterward reconsidered, and passed the House, and it looks as if it would secure favorable consideration in the Senate and the approval of the Governor.

One of the bills before the present Legislature in Pennsylvania was designed to compel all milk-dealers selling skim-milk to so letter all the cans from which the same was delivered or sold. It met defeat in the House.

MASSACHUSETTS.

The Haverhill *Bulletin*, Haverhill, Mass., of May 14, 1895, strongly urges the Governor to sign the bill which appropriates but \$100,000 to the State Cattle Commission, and in so doing holds the Commission up to severe criticism, and further suggests that they should resign, owing to many errors made and

extravagant use of the funds already appropriated. It suggests the creation of a State Veterinarian in place of a Commission.

The Tuberculosis Commission Bill of Massachusetts has been declared unconstitutional by the State's Attorney on the ground that the paying of full value for diseased cattle is forbidden by State statutes. It is intimated that the present Commission would prefer its veto rather than its passage in its present shape.

NEW YORK.

The Horseshoers' Bill in the New York Legislature has passed both the Senate and House, and now awaits the Governor's action. One of the most ardent workers for the success of this measure was Veterinarian S. K. Johnson, of New York City, in whom the master-shoers found a warm friend and supporter.

MARYLAND.

The Veterinary Medical Examining Board of the State of Maryland, while they have not what might be termed a satisfactory law, are still working hard and feel confident that with the aid of those practitioners now registered the next legislature may be influenced so to amend the present law as, at any rate, to approximate a satisfactory condition of things. There are now registered some one hundred and fifty-four names, of which number forty-four are graduates, and one hundred and forty-one new graduates, with one exception, men who have been in practice for years prior to the passing of the act. One man, who had been in practice but three years, took advantage of the act and passed a satisfactory examination before the board. He was at the time a student at a veterinary college. It is possible that some of the men registered as existing practitioners may have stretched their consciences a little, but all registrations are accompanied by sworn affidavits, so that at any time that it may be proven that such men had not been in practice for such length of time, they can be prosecuted for perjury and their names erased from the roll of registered practitioners. There have been no prosecutions made yet to test the validity of the law, but the board contemplates such a procedure in the near future. The law has been followed to the letter, and no names have been registered as non-graduates since January, 1895. The examination for graduates of schools requiring a three-years'

course of study will be held the last of this month or the first part of July. No applications will be received from graduates of schools requiring less than three years, unless they show evidence of having graduated prior to January, 1895, in which case they may be registered, even without passing any examination. The board is somewhat embarrassed now from lack of funds, but it is to be hoped that this will be overcome when those registered have been called together in session, and the result of the work of the board has been laid before them. The fact that so many men have been registered, and that the State is so well represented, geographically, in the registration, together with the great interest taken in the law by those who are registered, gives the board good ground for believing that they will be successful in their efforts before the next Legislature to have the law greatly improved. All those who honorably believe in making the profession better must certainly wish us success. There is a disposition among a few of our graduates to oppose the law, as favoring the ungraduate practitioner too much, but the framers of the law considered that they could not be too liberal at first, and the experience of the board has proven the wisdom of the thought, for upon the ungraduated registered practitioners must depend further progress in legislation.

A. W. CLEMENT,
Secretary.

ONE ASPECT OF NEW LEGISLATION.—This has been a fruitful year for legislation, and will pave the way for more stringent laws in the very near future, as well as point the way in other States. The success attained in New York and Pennsylvania, preceded by the statutes of Maryland, California, Ohio, and New Jersey, with prospective legislation in the same direction in Massachusetts, Maine, Wisconsin, Illinois, Missouri, Virginia, and West Virginia, all of which shall tend to throw stronger safeguards around the future practitioners of these several States, and be a surer means of protecting the public from the continual dangers of empiricism and quackery. These changes mean much to the institutions of veterinary learning, and to those who still cling to the short course restricts very much the field for recruiting their new classes. Canada has also joined in the agitation, and the meeting at Listowel, Ontario, this past winter, was only the first ebullition of the slumbering fires of agitation among those who will appreciate the fact that the courses of veterinary instruction in all schools and

colleges must be broader, deeper, and better. It will well bear repetition, that we no longer have need of an increase of the present imperfectly-educated veterinarian, whose sphere might be said to be limited to the treatment of the horse. I speak for a large number of the profession in practice to-day, when I say that none more fully realize their own deficiencies in the stronger men demanded than these practitioners themselves. With the great field of sanitary work and investigation, the food supply in its many aspects, the disposition to accept no longer the present conclusions relative to certain diseases in the domesticated animals, which annually cause great losses, and which must soon be solved in the interests of those on whom these great losses fall. These are only a few of the thoughts which suggest themselves in view of this legislation, and will afford a fruitful theme for consideration at the coming meeting of the Association of Faculties of North America.

CLINICAL GLEANINGS.

The treatment recently advocated by Dr. Lusson for "Azoturia," and published in the February number of this JOURNAL, has been successfully used in several cases by one of the readers of this JOURNAL. We should be glad to publish the experience of others.

Dr. James A. Waugh has observed that cases of tetanus which are slow in development recover under approved treatment in a much larger per cent. than those which arise rapidly. This would well apply to two cases recently treated by one of the editors of this JOURNAL, in which recovery was obtained. Let us hear from others ; it is of much importance.

Dr. W. Horace Hoskins reports the case of a large brown gelding, used in a coal wagon, prostrated on the street with heat-stroke ; temperature 106° when reached, with violent movements ; after the free use of water from a hose, and the administration of diffusible stimulants, was subsequently removed to his sanitarium with ambulance, and same treatment continued until the temperature reached the normal point. Bran mashes only were given as food, with grass and small quantity of hay. During the succeeding seventy-two hours forty large intestinal round-worms were voided, all dead. Was it not the high temperature that proved the effective vermifuge ?

CORRESPONDENCE.

IMPORTANT CHANGES IN THE PERSONNEL OF THE
BUREAU OF ANIMAL INDUSTRY.

THE acceptance by Dr. Theobald Smith of the position of Bacteriologist to the Massachusetts Board of Health created a vacancy in the office of Chief Pathologist to the Bureau, which, on the 15th ultimo, was filled by the promotion of Dr. Vieranus A. Moore.

Dr. Smith had been with the Bureau since 1883, and is in part the author of and in part connected with nearly all the publications emanating from the Division of Pathology. Eminently fitted by his complete mastery of modern languages, by his training in Cornell University, Albany Medical School, and Johns Hopkins University, and by his acute perceptions and remarkable memory, and beginning his bacteriological studies at the time of their active development in Germany and France, he has been able to keep pace with the foremost investigators and add his quota of original scientific observations and studies of disease to the general sum of knowledge, thus ranking the Pathological Laboratory among the foremost of the world.

During his term of service the Bureau publications on "hog cholera," "swine plague," "Texas fever," "tuberculosis," "broncho-pneumonia," "glanders," and many others of minor importance have been issued and stand accepted as valuable contributions by the scientific world.

The loss of the experience and able qualities of Dr. Smith to the Bureau has been at a gain to himself, and while, on the one hand, it may be regretted, on the other all men will wish Godspeed in his new position and the hearty enjoyment of the well-earned fifty per cent. increase of salary.

One cannot refrain just here from wondering at the conditions which make the government offices a training-school for preparing young men for service in State, city, or private institutions at such enormous increases of salary over those obtained in the Federal service.

Does it not seem better, inasmuch as the values dealt with and the resources therefrom are practically inexhaustible, and the benefits derived from checking loss in any direction are

not to be measured with the costs of investigation, that the government employ the most skilled servants, even though they be compelled to pay professional men a little more than they do clerks in the service an equal time? Until Congress and others in authority do make a change in this respect the government will be used as a training-school and the minor institutions will continue to summon the choice students from it to their aid at a loss and harm to public service. Our civil service has yet much to take in consideration in regard to the selection and retention of men fit for the peculiar duties they are to perform.

The appointment of Dr. Vieranus A. Moore as Chief Pathologist of the Bureau comes in the nature of a well-merited promotion. Dr. Moore has been Assistant Pathologist since 1887, and has not only aided in the detailed work of many of the above-cited publications, but is the author of several independent brochures on bacteriologic investigation and animal diseases. The advancement of Dr. Moore insures that the scientific work of the division will be continued on the same scale of excellence.

While the present chief cannot consummate alone the amount of work that was completed by the former chief and his trained assistant, this will be remedied by the training of other assistants. The restoration of the equilibrium now disturbed by the exchange of a man trained by years of experience for untrained assistants will take time, but will be accomplished.

It is not probable that any radical changes can be made by the Bureau authorities in an endeavor to change from its attitude as a training-school, yet we may hope, as time goes on, that gradual changes will be made looking toward, at least, the retention of the skilled professional labor that it in part creates and knows the value of. It would seem that the best servants should be employed in caring for the enormous live-stock interests of the nation, and are worth more to the Bureau than to any State or institution whose interests are but infinitesimal in importance and worth in comparison with its own.

Yours, etc., X.

THE PEOPLE OF THE STATE OF CALIFORNIA VS.
DR. R. A. ARCHIBALD.

THOSE who read the April number of the VETERINARY ARCHIVES no doubt noticed a set of resolutions published under the

head of "Proceedings of the California State Veterinary Medical Association." These resolutions were drafted and introduced by Dr. R. A. Archibald at a meeting of the California State Veterinary Medical Association held in San Jose in March, 1895, and were adopted by said Association for the purpose of preventing a veterinary surgeon named Thomas Carpenter from gaining the appointment of Meat and Milk Inspector in and for the City of Oakland, California. Shortly after the resolutions were made public Dr. Archibald was arrested and brought before the Police Court of Oakland on a charge of criminal libel, preferred by Dr. Carpenter. The trial that followed was watched with a great deal of interest by the different members of the veterinary profession throughout the State, more especially by the members of the Association, for the reason that the above-mentioned person had on numerous occasions done all in his power to retard the progress of the Association, and the trial was deemed an auspicious occasion to expose the said Dr. Carpenter.

The trial, which came off on the 17th day of May, was bitterly contested from start to finish, but justice eventually prevailed. Much testimony was introduced by the defense regarding the position Dr. Carpenter had taken toward the Association in the past, all of which he positively denied on the witness-stand, although the testimony was given by men whose honesty and integrity is unquestionable; he even denied having anything to do with a scandalous article or protest which was circulated at one of the sessions of the State Legislature against the enactment of a law that would protect the veterinary profession in the State, and which was written over his signature. He stated that his name was placed at the foot of the article referred to without his knowledge or sanction, all of which testimony did not seem to impress the jury, who, after being charged by counsel and judge, and after having retired for fifteen minutes, brought in a verdict for the defense, acquitting Dr. Archibald of the charge of criminal libel.

The result of the case was hailed with delight by the members of the veterinary profession throughout the State, and if what we hear be true the prosecuting witness felt correspondingly chagrined, and rightly so, for seldom has a man had his character exposed as was the character of the prosecuting witness in the above-mentioned case.

It might also be interesting to state that Dr. Carpenter did

not gain the position of Meat and Milk Inspector for the City of Oakland, but Dr. F. E. Pierce, who has occupied the position with honor for the past year, has been retained in the office.

UNIFORM VETERINARY TITLE.

MY DEAR DOCTOR:

Your communication regarding a uniform veterinary title arrived too late for me to get a response in on time. In fact, I only received it the day prior to the date you required it in your office. At any rate, it is a matter to which I have given little thought. I believe the simplest title, one understood by the masses, would be the best, like the French "Veterinaire" or the German "Thierartz." The more complicated names, "D.V.M.," "M.D.V.," "M.R.C.V.S.," "D.V.S.," etc., while well meant, are frequently used in a bigoted sense, which is equivalent to charlatanism. It makes one no better to be an M.R.C.V.S. or M.D.V. than to be simply V.S. or Veterinarian.

The multiplication of titles serves no legitimate purpose, but gives to charlatans, whether possessing diplomas or not, a wider range for juggling with titles. This juggling deceives ignorant people only, but unfortunately these form a large part of our patronage, and the value and health of live-stock is largely in their care.

I consequently hold that the simplest possible title is the best, because it can most quickly be comprehended by the common people. To others our individual ability is the standard by which we are measured, the exact title or even its utter absence counting for nothing. In my own case, as with my fellow-alumni, technically we are without a degree, but it has been the custom to assume one, which has, I believe, been fairly uniform, but no degree is recorded or denoted by the certificate of qualifications.

Beyond the reasons above given I see no need of a uniform degree until we can have uniform education, so that the degree will have a definite value as indicating a certain educational training. As it now stands, some colleges may argue that a big degree issued by them denotes a deeper, more scientific education, but this is an individual quarrel between colleges and does

not affect us more than disputed individual knowledge of two veterinarians. A degree can only indicate the alma mater, and the value of the man must at least be measured by the sum of his college training, which includes the competency of college instructors and the individual ability of the man himself.

Very truly yours, W. L. WILLIAMS, V.S.

VIRGINIA CITY, MONTANA, May 29, 1895.

NOTES OF CASES.

EQUINE HERMAPHRODITE.

BY EUGENE GOSS,
Junior Student K. C. V. C.

On April 28, 1895, I was called upon to operate upon a supposed male colt, but found instead a fine type of an hermaphrodite, four years of age, well bred, weight about one thousand pounds, in good health and flesh. The owner called me to amputate the penis, as it was unsightly when erect, protruding from the lips of the vulva about five inches, and was apparently perfectly formed.

The animal was extremely amorous and had been difficult to restrain, so I cast it as for castration, and examined the parts carefully. I found the mammæ well developed, with nipples of normal size for mare, and decided to operate as for a cryptorchid.

I commenced my incision at the base of the teat, on the posterior side, extending it about five inches, and making it large enough to admit my hand. After breaking down the fascia with my fingers and getting them into the inguinal canal, I found perfectly formed testicles just outside of the internal inguinal ring, the epididymis being largely developed.

After removing the testicles I concluded to await developments, and in about two weeks, as the animal had recovered, I decided to conclude the operation by removing the penis. After throwing and fastening, I inserted a small catheter into the urethra about seven inches, and, using my ecraseur, putting

the chain around the penis an inch inside of the vulva, proceeded to take it off, leaving the catheter in the urethra and letting it protrude about an inch to prevent the urethra closing; packed the vagina with antiseptic gauze and left the animal to the care of the owner, who turned it out to pasture, where it made an excellent recovery without further care. There was very slight hemorrhage during the operation, and very slight subsequent swelling of the parts, and to-day the owner has an apparently perfectly formed mare.

PROTRUSION OF THE JEJUNUM THROUGH THE VAGINA.

BY R. P. FEISER.

ON April 15, 1895, I was called to attend a mare, the property of J. Wolf, near Abbottstown. On my arrival the mare was dead. Upon inquiry, the owner stated that in the morning he found the mare down and laboring, with about twelve feet of bowel protruding from the vagina. I held a post-mortem and found the jejunum torn about five feet from the stomach, with the torn end protruding through a hole in the vagina near the symphysis pubis. The cervix uteri was dense and the walls of the vagina were also rigid. The os had not dilated. The foetus was normal.

NECROLOGY.

Dr. Samuel Heiser, a well-known and respected veterinary surgeon of Sioux City, Iowa, died on the 5th of May.

Dr. George B. Burchsted, of New York City, a graduate of the American Veterinary College, Class of 1891, succumbed recently to diabetes at St. Luke's Hospital of the above city.

AUTOPSIES.¹

BY H. D. GILL, V. S.

DEFECTIVE DEVELOPMENT OF THE CENTRAL NERVOUS SYSTEM
IN A CAT. (Brain, LXIX.)

Clinical Symptoms: Paresis of both posterior extremities and right anterior extremity.

Autopsy: The marked feature was the fact that the right cerebellum was scarcely a third the size of the left. That this condition was the result of defective development was shown by the normal state of all the cerebellar tissue present. In addition it was noted that the right cerebral hemisphere, the right half of the pons and medulla, and the right crus cerebri were all somewhat smaller than the corresponding parts on the left side.

DERMOID CYST.

A tumor removed from the side of a mule, and reported to be of twenty years' growth, was presented to the museum by Dr. G. A. Waldron, of Tecumseh, Michigan. It proved to be a dermoid cyst about the size of a man's head. The cyst weighed six and one-half pounds and contained irregular masses of bone, cartilage and fibrous tissue, with a quantity of hair. It would have been interesting to know the size when first observed.

OSTEOSARCOMA IN THE NOSE OF AN OX.

The nasal cavities were filled by an irregularly rounded tumor, which was about nine inches by five inches in size. It seemed to have grown from the internal face of the external wall of the left antrum. It obliterated the left antrum and nearly filled the right. About three-fourths of the mass was made up of cancellous bone-tissue. The soft parts and the external surface of the tumor were irregularly lobular, and there seemed to be a capsule. There were one or two cysts which contained semi-gelatinous, light-colored, glairy fluid. Microscopically it was found to be made up of fibrous tissue, densely infiltrated with small spindle-shaped cells, having for their support a stroma

¹ Autopsies made in the laboratory of the New York College of Veterinary Surgeons.

derived from the fibrous bands which traversed the mass more abundantly in some places than others.

INTUSSUSCEPTION IN A DOG.

Clinical History: The patient, a trick dog, the property of Huber's Museum of New York, was brought to the hospital January 17, 1895, with the following history: Three weeks before the dog had had distemper, but made a good recovery. On January 11th there began an attack of abdominal pain, diarrhœa, and bloody passages. January 17th examination showed a pulse of 100, temperature 103.4°, and a sausage-shaped tumor, about four inches long, situated in the abdomen posterior to the last rib and a little to the left of the median line. The dog was weak, in evident pain, was constantly thirsty, and had frequent bloody passages. Soon after arrival at the hospital all pain suddenly subsided, but the dog died the morning of the 19th.

Autopsy: A well-developed, somewhat emaciated "Ulmer" dog, lungs and heart normal. On opening the abdomen there was immediately apparent an invagination four and one-half inches long, occupying the colon about twenty-eight inches from the anus. There was a pea-sized perforation of the colon at a point near the lower end of the tumor. The coils of intestines were dilated, injected, and covered with flakes of fibrin. The peritoneal cavity contained about a pint of blood-stained serum of an offensive odor. The mesenteric glands were enlarged.

Diagnosis: Intussusception of colon, general peritonitis, perforation of intestine.

FACTS AND ACTS WORTH KNOWING.

The Ætna Live Stock Insurance Co., a mutual assessment company of Pennsylvania with headquarters at Philadelphia, bids fair to end up in the courts. Numerous lawsuits against policy-holders and the counter-suits of the latter against the company are now in process of solution. The Insurance Commissioner of the State has been asked to investigate the management.

The Missouri Board of Agriculture finds it a profitable investment to employ from time to time the services of veterinarians to lecture before their Farmers' Institutes on subjects which interest and instruct owners and breeders of live-stock, a plan that might be employed profitably by the Boards of every State.

The establishment of a veterinary college for Ireland is under consideration in Great Britain, and is likely to be accomplished.

The City Government of Philadelphia has not been slow to recognize the value of true veterinary service, hence the employment of the following corps of veterinarians: Consulting Veterinary Surgeon to the Meat Inspection Department under the Department of Public Safety, Dr. Leonard Pearson; Chief Inspector, Dr. A. F. Schrieber; Milk Inspectors under the direction of the City Board of Health, Drs. G. R. Hartman, Frank L. Smith, Chas. M. Earnest; City Veterinarian to the Fire and Police Department horses, Dr. John R. Hart.

The Keystone Veterinary Medical Association of Philadelphia and vicinity, at their April meeting, strongly urged the defeat of those bills pending in the State Legislature destined to prevent the entrance of Western dressed-beef products, except under such State inspection that would make the traffic almost prohibitory. Such selfish laws are often great blows to those who promote them and result in material injury to the States that enact them.

Prof. H. C. Wood, of the Medical Department of the University of Pennsylvania, was somewhat but agreeably surprised to find that some six members of the Veterinary Department's graduating class won the perfection mark of 100 in their examinations under him. This is a record hardly equalled in any former year by any class of the different departments of medicine.

At the annual meeting of the Board of Trustees of the American Veterinary College, held at the office of President Weisse of the Board, in the City of New York, on Tuesday evening, May 14, 1895, a hearing was accorded representatives Drs. W. L. Rhoads, H. D. Hanson, Bryce Mars, and W. Horace Hoskins, of the Alumni Association, who pleaded for increased representation of the latter body on the Board of Trustees. After mature deliberation the Board granted the request, and

it will be the province of the Association at their next regular meeting to elect the additional representatives granted. We believe that it is always a wise policy to concede a generous representation on such Boards to those who are most directly and deeply interested, and none can have their alma mater's welfare more at heart than her own children.

The address of Dr. Austin Peters before the *Ploughman's* Farmer meeting in Boston on April 6th was an unusually fair, concise, and conservative review of the question of tuberculosis in its present aspect and the knowledge we possess. Dr. Peters speaks with authority, for he has been one of the most earnest, conscientious searchers after the truth and light on this subject for many years, and has had a wide field of observation at his command. We therefore feel that no apology is needed in opening wide our columns to quote from his address on this occasion.

The Veterinary Department of the University of Pennsylvania grants twelve free scholarships to the State and three to the city of Philadelphia, through the generosity of the State and city in aiding the school by grants of money and land for college purposes.

In conjunction with the valuable course of lectures now being given to the horseshoers of Philadelphia, many of the masters as well as journeymen are pursuing a special course of anatomy, with dissections, at the Veterinary Department of the University of Pennsylvania. This means much for the welfare of the shoeing art in Philadelphia.

Dr. D. LeMay has in French press at Montreal, Canada, a history of the recent false report of an outbreak of contagious pleuro-pneumonia in Kansas.

The value and need of the recently proposed law in California establishing State and County Veterinarians awakened much comment among the veterinarians and wide differences of opinion as to the wisdom of such an act at this time.

Rivalry between two of Cincinnati's veterinarians for the place of veterinarian to the recent dog-show ended in a disgraceful street encounter which will have its termination in the courts.

The resolutions recently adopted by the California State Veterinary Medical Association, condemnatory of Dr. T. Car-

penter, of Oakland, for aiding in the defeat of certain State legislation fathered by the Association, has culminated in a libel suit against Secretary Archibald.

Rabies among the canines is said to prevail in epizootic form throughout parts of Great Britain.

Paris conducts a dog-market on Sunday for the sale and exchange of canines.

One of Washington's veterinarians will in the early future erect there a thoroughly modern and well-equipped hospital for members of the canine and feline families.

Red water, or Texas fever, has broken out in Northern Australia. It is thought to have reached there through cattle from Queensland brought from the northwest territory.

The museum of the National Veterinary College has been enriched by the presentation of a corroded silver-plated table-knife recently found in the stomach of a cow.

Loss and gain in the weight of horses vary much from day to day. A single drive has been noted to 'cause the loss of eighteen pounds, while an apparent gain of sixty pounds has been noted under ordinary conditions in three days.

The American Veterinary Hospital of Allegheny, Pa., which opened April 1, with free consultation from 5 to 9 A. M. and 6 to 9 P. M., has been closed by the constable. Dr. Wall, the head of the institution, is now confined in jail waiting trial on the charge of perjury. The hospital staff, while claiming to be veterinary surgeons, were not graduates of any veterinary college.

Western Pennsylvania veterinarians deserve much credit for their earnest efforts in prosecuting violators of the law regulating the practice of veterinary science in Pennsylvania. In both cases the violators promised to cease violating the statute if leniency was shown in their sentences. Drs. Martin and Falconer should keep up the good work; it will teach a wholesome lesson.

Horseflesh is being manufactured into an animal food for chickens.

Parisians are finding it more profitable to buy horses in the United States than at home. Recently some two hundred horses were purchased in Chicago for one exportation.

Connecticut has passed a law making the docking of horses' tails a misdemeanor.

NEW INVENTIONS.

A soft-tread horseshoe, consisting of a top-plate with two walls from the plate, the space between inner and outer wall hollow.

An aluminum horseshoe having finely-divided particles of hard metal distributed over and permanently imbedded in the wearing surface, curved and spiral strips of hardened metal imbedded in the shoe, with the wearing-edges on a level with the face of the shoe.

A horseshoe pad, composed of a plate and rubber heel, the pad being notched to receive the heels of the shoe.

A looped metal currycomb with serrated edges.

A rubber and canvas saddle-pad so arranged as to be capable of inflation.

A flexible collar-pad, with a central perforated ventilating-chamber on its under side.

A back-pad comprising a pad proper and a pad-back, with concave top, and transverse opening carried to the edges.

A new caponizing-instrument.

Automatic watering-trough for animals.

A circular spring currycomb consisting of a serrated endless band of metal.

A combination hopple with a breast-plate, a depending bracket thereon for leg-straps, to be secured to the limbs above the knees.

A horseshoe with removable heel and toe calkings.

A cushioned horseshoe, the cushion being elastic, of rubber, and so arranged as to fit in recesses of the shoe.

An improvement in milk-preparation, consisting of dividing whole milk into cream, milk without fat, and sugar of milk and water, each of which fluids is made to contain a definite and known percentage of milk-constituents, then recombining these constituents according to special formulas.

An animal-poke, with yoke for neck and nose-band, with a series of projecting arms.

A safety-rein bridle, with disks to close the nostrils when required to control or stop an animal.

A shouldered-calk for horseshoe, removable at will, made secure to the shoe by a double-ended screw passing through the calk.

A leg-spreader, made to bear against the inner faces of the legs, suspended over the shoulders from the withers.

Castrating-forceps, comprising a pair of oppositely arranged movable jaws, the lower jaw having a projection on the top roughened on its upper surface, with a knife cutting-blade set transversely to the jaws, the upper jaw to hold a medicated sponge in front of the knife.

A horseshoe-pad, for the posterior half of the foot, recessed into the wings of the shoes.

U. S. V. M. A.

IN connection with the coming meeting of the U. S. V. M. A. a party of twenty-five will be made of veterinarians from New York, New Jersey, Pennsylvania, and Maryland to go to Des Moines in September next. A special Pullman sleeping-car for the party will be secured, and reduced rates have been obtained. It will be taken out by the Baltimore and Ohio Railroad. At Chicago the only change of cars will be made. Veterinarians wishing to avail themselves of a place with this party can obtain all information as to rates, etc., by addressing W. Horace Hoskins, 3452 Ludlow Ptreet, Philadelphia.

CHAIRMAN TRUMBOWER, of the Committee on Diseases, promises to give the best and most complete report ever enjoyed by the Association. All his colleagues on the Committee have been assigned special topics, and the Chairman will present important matters for consideration.

Dr. TAIT BUTLER will read a paper entitled "Accidents Incident to the Casting and Confining of Animals for Surgical Operations." This subject will surely prove interesting and instructive to every veterinarian present.

THE CALIFORNIA STATE VETERINARY MEDICAL ASSOCIATION at its June meeting will elect a delegate to the coming meeting in Des Moines. California veterinarians are enthusiastic over the prospects of a meeting on the Pacific Coast in 1897.

COLLEGE NEWS.

OHIO VETERINARY COLLEGE EXERCISES.—The annual commencement exercises were held on March 18th at the college. Professor Thomas King, Dean of the College, addressed the graduating class on "Veterinary Medicine." Professor J. Shaller, M.D., also addressed the students. The valedictory address was delivered by Frederick Keebler, after which the diplomas were delivered by W. W. Symmes, with appropriate remarks.

The following are the list of successful graduates: J. S. Ellis, A. W. Weir, J. A. Wynn, Louis Cook, Horace Bradley, J. A. Meager, W. A. Aixby, E. O. Hess, of Cincinnati; and C. D. Werley, of Albany, Pennsylvania.

The United States College of Veterinary Surgeons is out with its announcement for the college year of 1895 and 1896, announcing the change to a two years' course. In addition it makes the following announcement relative to the degrees conferred:

"Upon completion of the course and satisfactory passing of the examinations, as prescribed by the faculty, the student is allowed to present himself for the trustees' examination, and if found to be qualified the degree of Doctor of Veterinary Science (D.V.S.) will be granted, and also admitting the student to membership of the United States College of Veterinary Surgeons (M.U.S.C.V.S.)

"The degree of Fellowship of the United States College of Veterinary Surgeons (F.U.S.C.V.S.) will be granted to graduates of this college and to those of other colleges who have been in actual practice for five years, and who have been a credit to the profession and to their Alma Mater."

PERSONAL.

Dr. Clyde E. Fouse, a recent graduate of the Veterinary Department of the University of Pennsylvania, is now associated with the teaching staff of that Department as Assistant Demonstrator of Anatomy.

Dr. Thomas Young, a well-known veterinary surgeon of Delaware County, Pa., has just received the nomination for Prothonotary of that county. This is one of the leading county offices.

Dr. Arthur Salinger, a graduate of the Veterinary Department of the University of Pennsylvania, the coming college year, will fill the position of Demonstrator of Veterinary Surgery.

Dr. W. B. E. Miller's many friends will be glad to learn of his promised convalescence from the painful injuries recently received while in the act of extracting a molar tooth from a mule.

Prof. Dewar has been appointed Principal of the Royal (Dick) Veterinary College, after an acrimonious discussion and severe criticism of the Town Council, under whose jurisdiction lies the application of the Dick Trust.

Among the veterinarians whose names are already being mentioned for places on the State Veterinary Medical Examining Board of Pennsylvania are those of Drs. Harger, Hoskins, John R. Hart, and W. T. S. Werntz, of Philadelphia; Dr. Conard, of West Grove; Dr. Luson, of Ardmore; Dr. Weber, of Lancaster; Dr. Sallade, of Pottsville; Dr. Walters, of Wilkesbarre; and Dr. J. C. McNeill, of Pittsburg. Five are to be appointed.

Dr. W. C. Fair, of Cleveland, Ohio, recently addressed the Master Horseshoers' Association at their convention in that city.

Dr. E. B. Ackerman officiated as veterinarian to the recent Brooklyn horse-show.

Dr. Richard Middleton, a graduate of the American Veterinary College, after pursuing a course of dentistry at the University of Pennsylvania, has embarked for Germany, where he proposes to practise his newly adopted vocation.

Drs. Zuill, Pearson, and Harger officiated as veterinarians to the Philadelphia horse-show recently held at Wissahickon Heights.

Dr. John Airth, connected with the meat-inspection department of the Bureau of Animal Industry, has been transferred from Sioux City, Iowa, to Kansas City, Missouri.

Dr. Daniel Le May, who has recently been stationed at the United States Cavalry and Light Artillery School, Ft. Riley, Kansas, has been transferred to Ft. Grant, Arizona.

Dr. M. A. Piche, veterinarian of 1st Cavalry of United States, has been transferred, by a change of location of his regiment, from Ft. Grant, Arizona, to Ft. Riley, Kansas.

Dr. Tait Butler, in his Southern field of work, has found it necessary to give much of his time to the pioneer work of first encouraging the growth of the live-stock industry. He has already taken the preliminary steps toward organizing a State Stock-breeders' Association, the establishing of an agricultural paper, and the breeding of live-stock.

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
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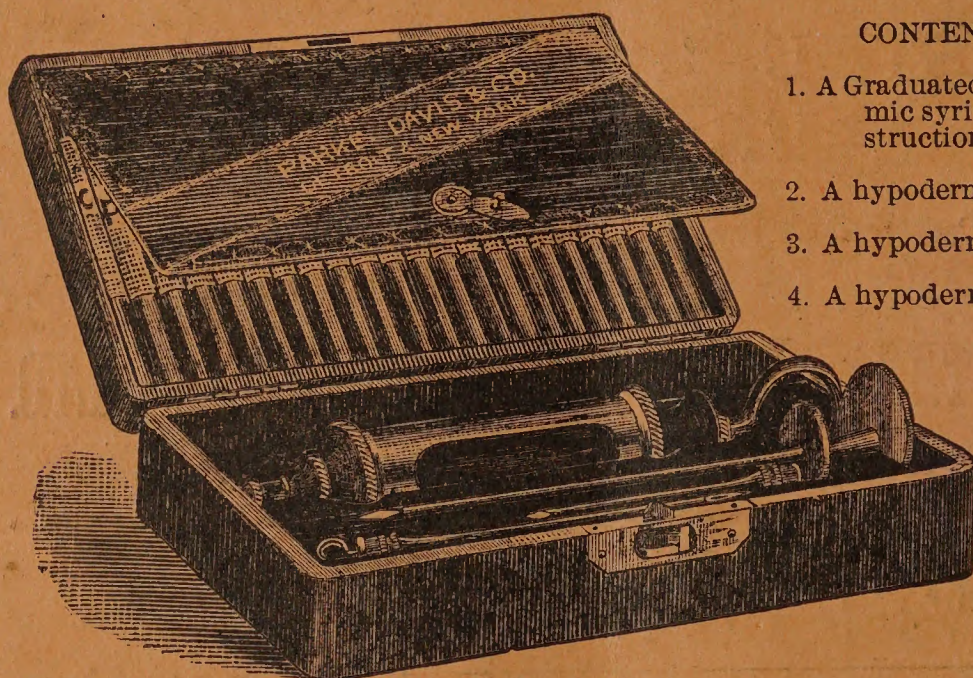
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